

Defense Information Systems Agency
FY 2000/2001 RDT&E PROGRAM

EXHIBIT R-1

APPROPRIATION: 0400D Research Development Test & Eval, Defwide

Date: FEB 1999

Line No	Program Element Number	Item	Act	Thousands of Dollars				S E C
				FY 1998	FY 1999	FY 2000	FY 2001	
21	0305108K	Command and Control Research	2	1,821	1,955	1,968	2,015	U
		Applied Research		1,821	1,955	1,968	2,015	
89	0604764K	Advanced IT Services Joint Program Office (AITS-JPO)	5		15,179	15,172	15,075	U
		Engineering and Manufacturing Development			15,179	15,172	15,075	
118	0605801K	Defense Technical Information Services (DTIC)	6		45,335	46,655	45,729	U
		RDT&E Management Support			45,335	46,655	45,729	
124	0208045K	C3 Interoperability	7	24,457	26,219	27,366	28,962	U
		Operational Systems Development		24,457	26,219	27,366	28,962	
128	0302016K	National Military Command System-Wide Support	7	1,662	1,186	613	645	U
129	0302019K	Defense Info Infrastructure Engineering and Integration	7	3,986	4,777	5,316	5,521	U
130	0303126K	Long-Haul Communications (DCS)	7	13,387	11,510	1,316	1,425	U
131	0303127K	Support of the National Communications System	7	4,280	4,415	4,274	5,049	U
132	0303131K	Minimum Essential Emergency Communications Network (MEECN)	7	2,242	3,052	3,799	4,023	U
135	0303149K	C4I for the Warrior	7		3,664	388	407	U
136	0303153K	Joint Spectrum Center	7		8,813	8,823	8,884	U
		Operational Systems Development		25,557	37,417	24,529	25,954	
		Total Defense Information Systems Agency		51,835	126,105	115,690	117,735	

Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/02					R-1 ITEM NOMENCLATURE C2 Research/P.E. 0305108K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Command and Control Research/A10	1.821	1.955	1.968	2.015	2.043	2.079	2.126	2.176	Cont'd	Cont'd
<p>A. <u>Mission Description and Budget Item Justification:</u> This program element represents DISA's portion of a joint DISA/multi-service effort that supports research into emerging technologies, methodologies, and theories of military command and control (C2), the application of research results to resolve the problems of C2 associated with joint and coalition operations and the optimal use of MILDEP laboratory resources. Accordingly, this program element is located in Budget Activity 02. The C2 research program was initiated to develop C2 as a scientific discipline; foster joint service techbase cooperation; and develop a better understanding of the national security implications of the information age, particularly with respect to the development and use of information superiority in support of future operational concepts. The program supports the conduct and dissemination of C2 basic and applied research. Initiatives focus on high level issues in C2 and the development of related educational materials for DOD personnel. Joint techbase issues are addressed including those related to network centric warfare, information superiority, integration of system of systems, command decision making and supporting processes, and Joint and Coalition C2.</p> <p><u>FY 1998 Accomplishments:</u></p> <ul style="list-style-type: none"> o Continued Basic and Applied Research Initiatives designed to improve the state-of-the-art and practice of C2 with projects focused on network centric warfare, information operations, team decision making, battlespace architectures, and integration of a system of systems. (1st Qtr - 3rd Qtr) (\$923K) o Continued Development of C2 Research Infrastructure with work on Metrics, C2 Modeling, Joint Experimentation, and workshops on C2 related issues. (1st Qtr - 4th Qtr) (\$375K) o Continued C2 Community Development and Cooperation with the annual C2 Research and Technology Symposium, the 4th International C2 research and technology symposium, and technical exchanges on C2 of Operations Other Than War (OOTW). (1st Qtr - 4th Qtr) (\$261K) o Continued Dissemination of Research Findings and Educational Initiatives with a publications program, a Home Page with updated C2 bibliographies and features on network centric warfare and new sciences, and a guest lecturer's series. (1st Qtr - 4th Qtr) (\$262K) o Total \$1.821M 										

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COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Command and Control Research/A10	1.821	1.955	1.968	2.015	2.043	2.079	2.126	2.176	Cont'd	Cont'd
<p><u>FY 1999 Plans:</u></p> <ul style="list-style-type: none"> o Continue Basic and Applied Research Initiatives in Command and Control. (2nd Qtr - 4th Qtr) (\$970K) o Continue Development of C2 Research Infrastructure. (1st Qtr - 4th Qtr) (\$400K) o Continue C2 Community Building and Cooperation Initiatives. (1st Qtr - 3rd Qtr) (\$325K) o Continue Dissemination of Research Findings and Educational Initiatives. (1st Qtr - 4th Qtr) (\$260K) o Total \$1.955M <p><u>FY 2000 Plans:</u></p> <ul style="list-style-type: none"> o Continue Basic and Applied Research Initiatives in Command and Control. (2nd Qtr - 4th Qtr) (\$975K) o Continue Development of C2 Research Infrastructure. (1st Qtr - 4th Qtr) (\$400K) o Continue C2 Community Building and Cooperation Initiatives. (1st Qtr - 3rd Qtr) (\$330K) o Continue Dissemination of Research Findings and Educational Initiatives. (1st Qtr - 4th Qtr) (\$263K) o Total \$1.968M <p><u>FY 2001 Plans:</u></p> <ul style="list-style-type: none"> o Continue Basic and Applied Research Initiatives in Command and Control. (2nd Qtr - 4th Qtr) (\$990K) o Continue Development of C2 Research Infrastructure. (1st Qtr - 4th Qtr) (\$400K) o Continue C2 Community Building and Cooperation Initiatives. (1st Qtr - 3rd Qtr) (\$350K) o Continue Dissemination of Research Findings and Educational Initiatives. (1st Qtr - 4th Qtr) (\$275K) o Total \$2.015M 										

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COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Command and Control Research/A10	1.821	1.955	1.968	2.015	2.043	2.079	2.126	2.176	Cont'd	Cont'd
B. <u>Program Change Summary:</u>										
					<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>		
Previous President's Budget (FY 1999)					1.874	1.961	2.000	2.050		
Appropriated Value					1.937	1.961				
Adjustments to Appropriated Value					-.116	-.006				
Adjustments to Budget Year Since FY 1999 President's Budget							-.032	-.035		
Current Budget Submit/President's Budget (FY 2000)					1.821	1.955	1.968	2.015		
Change Summary Explanation:										
Funding: FY 1998 and FY 1999 changes due to undistributed congressional adjustments to Defense-wide RDT&E Appropriation and below threshold reprogramming.										
FY 2000 and FY 2001 changes due to revised inflation rates.										
C. <u>Other Program Funding Summary:</u> N/A										
Page 3 of 3										

Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/05					R-1 ITEM NOMENCLATURE PE0604764K/Advance Information Technology Services Joint Program Office (AITS-JPO)					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Leading Edge Pilot Info Tech/T26	0	15.179	15.172	15.075	14.977	14.883	15.019	15.158	Contg	Contg
<p>A. <u>Mission Description & Budget Item Justification:</u> The Advanced Information Technology Services Joint Program Office (AITS-JPO), a joint DARPA/DISA office, facilitates the transition of DARPA's substantial information systems technology research into DISA's operational support of the warfighter. The AITS-JPO, among other functions: a) provides advanced technology demonstrations and collaboration capabilities for R&D and Battle Lab communities; b) engineers and reinforces components for leave-behind and transition into the Defense Information Infrastructure (DII), including the Global Command and Control Systems (GCCS) and Global Combat Support Systems (GCSS); c) augments transitioning products with improved security, scalability, and DII compliance; and d) provides advanced, hardened capabilities (Leading Edge Services) to select operational beta test sites. As a result, this program element is under Budget Activity 5. Leading Edge Services are information transport and value added services not available from the DII and for which customers are willing to assume some of the risk associated with development and initial deployment. These services include information processing, storage, and retrieval; communications (voice, data, video, multimedia); and security technology and application in command, control, and intelligence for the worldwide DOD communities.</p> <p><u>FY 1999 Plans:</u></p> <ul style="list-style-type: none"> o Develop, harden and transition an initial capability for rapid Courses of Action/Time-Phased Force Deployment Data (COA/TPFDD), TPFDD/OPLAN readiness and distributed assessment for GCCS 4.0 with a focus on Joint Staff Joint Operating Planning and Execution System/Crises Action Planning and Execution (JOPES/CAPE) reengineering (2nd Qtr - 4th Qtr; \$2,600K). o Integrate web-based collaboration, logistics Common Operational Picture (COP) initial developments and synchronized log planning into the GCSS cluster. Support transition of joint Logistics Advanced Concept Technical Demonstration (ACTD) to Advanced Common Operating Environment (COE)/GCSS Infrastructure (2nd Qtr - 4th Qtr; \$2,829K). 										

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COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Leading Edge Pilot Info Tech/T26	0	15.179	15.172	15.075	14.977	14.883	15.019	15.158	Contg	Contg
<ul style="list-style-type: none"> o Integrate an advanced information environment into the DII COE which will permit plug and play introduction of new capabilities, information sharing and collaboration across diverse networks in support of joint planning and execution (3rd Qtr - 4th Qtr; \$1,560K). o Focus on high-performance, secure, distributed Common Object Request Broker Architecture (CORBA) services implementation and on integrating broadcast and conventional webs (e.g., Intelink, SIPRnet, ATM nets) (3rd Qtr - 4th Qtr; \$2,200K). o Provide an enhanced common operational picture, which includes broadcast COP, multimedia & video services, reach-back archiving & C4I systems integration with Information Dissemination Management (IDM) services (3rd Qtr - 4th Qtr; \$2,340K). o Focus on continuous collaborative plan and workflow management, on quantum improvement of the types of distributed planning and assessment capabilities offered in Common Operating Modeling Planning and Simulation Strategy (COMPASS), and on evaluation of the initial Joint Continuous Strike Element (JCSE) ACTD products for transition to multiple service systems (2nd Qtr - 4th Qtr; \$1,550K). o Provide the basis for integrating C3I and simulation applications through the object and multicast infrastructure (2nd Qtr - 4th Qtr; \$2,100K). o Total \$15.179M <p><u>FY 2000 Plans:</u></p> <ul style="list-style-type: none"> o Provide initial capability in DII/COE for distributed courses of action analysis during the planning process, interacting between GCCS and modeling and simulation sites (2nd Qtr - 3rd Qtr; \$2,953K). o Transition Joint Logistics ACTD Joint Decision Support Toolkit into GCSS and provide augmentation to GCSS mediated data services and COP to support them (2nd Qtr - 4th Qtr; \$2,953K). 										

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COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Leading Edge Pilot Info Tech/T26	0	15.179	15.172	15.075	14.977	14.883	15.019	15.158	Contg	Contg
<ul style="list-style-type: none"> o Demonstrate integration of the U.S. Imagery and Geospatial Architecture into DII COE systems using end-to-end object services developed in the DARPA JTF-ATD (2nd Qtr - 4th Qtr; \$2,459K). o Provide a collaborative virtual workspace capability for the DII COE based on DARPA and other emerging tools (2nd Qtr - 4th Qtr; \$2,360K). o Continue transition of JCSE ACTD Joint Targeting products as appropriate (2nd Qtr - 4th Qtr; \$296K). o Provide an initial capability for use by GCCS of IDM services coupled with an adaptive network capability in the DISN (2nd Qtr - 3rd Qtr; \$511K). o Develop, harden, and demonstrate advance infrastructure services to support a secure, adaptive Global Networked Information Environment (2nd Qtr - 3rd Qtr; \$3,640K). o Total \$15.172M <p>FY 2001 Plans:</p> <ul style="list-style-type: none"> o Initial transition to GCCS execution monitoring and continuous real-time assessment using products from the Adaptive Course of Action (ACOA) ACTD, and other relevant DARPA and Service technology (2nd Qtr - 4th Qtr; \$2,948K). o Incorporate DARPA analysis tools into the Integrated Intelligence and Imagery Database (I3DB) component of GCCS and other C2 systems (2nd Qtr - 4th Qtr; \$1,966K). o Integrate Geospatial product access with IDM services (2nd Qtr - 3rd Qtr; \$983K). o Complete integration of Joint Logistics products and other DARPA combat support tools into GCSS (2nd Qtr - 4th Qtr; \$983K). o Provide a capability for extensive functional integration between the operational planning functions of the GCCS and the development/assessment of the combat support plan (2nd Qtr - 4th Qtr; \$2,003K). o Transition an upgraded collaborative workspace that increases interaction between C4I systems, and modeling and simulation anchor desks (2nd Qtr - 4th Qtr; \$1,966K). 										

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COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Leading Edge Pilot Info Tech/T26	0	15.179	15.172	15.075	14.977	14.883	15.019	15.158	Contg	Contg
<ul style="list-style-type: none"> o Transition a cost-effective capability to support dynamic enclaves and information release to coalition forces (2nd Qtr - 4th Qtr; \$1,278K). o Provide enhanced GCCS and GCSS applications coupling to an optimized IDM and global networked architecture (2nd Qtr - 4th Qtr; \$1,965K). o Initial transition of products from the DARPA Information Assurance program and other IA technology into DII infrastructure, including intrusion detection and guards (2nd Qtr - 4th Qtr; \$983K). o Total \$15.075M 										
B. Program Change Summary					<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>		
Previous President's Budget (FY 1999)					0	15.588	15.420	15.339		
Appropriated Value						15.588				
Adjustments to Appropriated Value						-.409				
Adjustments to Budget Year Since FY 1999 President's Budget							-.248	-.264		
Current Budget Submit/President's Budget (FY2000)					0	15.179	15.172	15.075		
Change Summary Explanation:										
FY99 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation.										
FY00 and FY01 changes due to revised inflation rates.										
C. Other Program Funding Summary:										
		<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	<u>To Complete</u>	
Operation and Maintenance:		\$2.450	\$2.486	\$2.400	\$2.294	\$2.331	\$2.331	\$2.331	Contg	
D. Acquisition Strategy: MITRE, Reston, VA; Houston Associates, Inc. and SAIC, Arlington, VA.										

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COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Leading Edge Pilot Info Tech/T26	0	15.179	15.172	15.075	14.977	14.883	15.019	15.158	Contg	Contg
<p>E. <u>Schedule Profile:</u></p> <p><u>FY 1999</u></p> <p>1st Qtr Engineer and reinforce GCCS and GCSS leading edge services for operational evaluation at twice FY98 levels. Augment transition products with improved security scalability and DII compliance. Transition selected components of DARPA Battlefield Awareness, command and control, modeling, and simulation initiatives to LES and/or DII. Facilitate maintenance by adapting interfaces to an emerging commercial marketplace.</p> <p>2nd Qtr Align DARPA's C4I architecture approach with DII evolution. Transition object based architecture components to the DII COE.</p> <p>4th Qtr Participate with the Joint C4ISR Battle Center and Federated Battle Lab in Virtual Collaboratory experiments to assist Defense Agencies and Services in integrating advanced C4I applications and technology onto the DII. Complete first-year expansion of the AITS-JPO mission to a greater role in DII technology risk reduction; Provide advance information technology services for the R&D and Battle Labs Communities at twice FY98 levels (Joint communications infrastructure synchronization.) Engineer and reinforce GCCS and GCSS. Complete transition of advance joint planning ACTD components into GCCS.</p> <p><u>FY 2000</u></p> <p>1st Qtr Continue transition of components of DARPA technology programs to DII. Expand transitions to include integration of technology from other services and agencies as appropriate.</p> <p>2nd Qtr Distributed planning/analysis capability to GCCS. Initial Logistics Joint Decision Support tools to GCCS. Collaboration toolkit for DII COE.</p>										

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COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Leading Edge Pilot Info Tech/T26	0	15.179	15.172	15.075	14.977	14.883	15.019	15.158	Contg	Contg
<u>FY 2000 Continued</u>										
3 rd Qtr	Information Dissemination Management services into GCCS, DII COE and DISN. Continue Battle Lab experiments with advance information infrastructure and infosec components.									
4 th Qtr	Complete transition of Battlefield Awareness Data Dissemination (BADD) ACTD components to GCCS imagery and intelligent database segments, and Geospatial information systems. Continue Battle Lab experiments with advance information infrastructure and infosec components.									
<u>FY 2001</u>										
1 st Qtr	Continue integration and transition of components of DARPA, services and agencies' technology programs to DII aligned with DII software releases.									
2 nd Qtr	GCCS plan execution monitoring capability. Integrated Intelligence and Imagery Database (I3DB) components and product access via IDM services. Continue sustained support of leading edge deployed capabilities until they are fully transitioned. Continue Battle Lab experiments, including Ops/Combat support integration between GCCS, GCSS, and service systems.									
3 rd Qtr	Continue sustained support of leading edge deployed capabilities until they are fully transitioned. Continue Battle Lab experiments, including Ops/Combat support integration between GCCS, GCSS, and service systems.									
4 th Qtr	Collaboration and coalition information and coalition information assurance transitions. Initial capability for collaborative Joint Target Coordination. Continue sustained support of leading edge deployed capabilities until they are fully transitioned. Continue Battle Lab experiments, including Ops/Combat support integration between GCCS, GCSS, and service systems.									
Page 6 of 8										

Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/05					R-1 ITEM NOMENCLATURE PE0604764K/Advance Information Technology Services Joint Program Office (AITS-JPO)					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Leading Edge Pilot Info Tech/T26	0	15.179	15.172	15.075	14.977	14.883	15.019	15.158	Contg	Contg
<p><u>FY 2002-2005</u> 1st-4th Qtr Continue integration and transition of components of DARPA, services and agencies' technology programs to DII aligned with DII software releases. Continue sustained support of leading edge deployed capabilities until they are fully transitioned. Continue Battle Lab experiments, including Ops/Combat support integration between GCCS, GCSS, and service systems.</p>										
Page 7 of 8										

UNCLASSIFIED

Exhibit R-3 Cost Analysis		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/05	PROGRAM ELEMENT Advance Information Technology Services Joint Program Office (AITS-JPO)/PE0604764K	PROJECT NAME AND NUMBER Leading Edge Pilot Information Technology/T26

Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
<u>Engineering/technical services</u>												
	C-CPAF	HAI, Arlington, VA	0	4.868	Dec 98	5.117	Dec 99	5.258	Dec 00	Contg	Contg	15.550
	C-CPAF	SAIC, Arlington, VA	0	.975	Dec 98	1.032	Dec 99	1.081	Dec 00	Contg	Contg	3.150
	MIPR	SSC, San Diego, CA	0	1.948	Nov 98	2.066	Nov 99	2.162	Nov 00	Contg	Contg	6.300
All other Contracts				2.520	Dec 98	1.940	Dec 99	1.464	Dec 00	Contg	Contg	N/A
<u>Systems Engineering</u>												
	C-CPAF	MITRE, Arlington, VA	0	<u>4.868</u>	Nov 98	<u>5.017</u>	Nov 99	<u>5.110</u>	Nov 00	Contg	Contg	15.300
TOTAL				15.179		15.172		15.075				

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Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/06					R-1 ITEM NOMENCLATURE Defense Technical Information Services/ 0605801K					
COST (in millions)	FY98	FY99*	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element Cost		45.335	46.655	45.729	45.135	44.632	45.890	47.184	Cont.	Cont.
001 Defense Technical Information Center		33.764	34.627	33.632	33.213	32.897	33.873	34.881	Cont.	Cont.
002 Information Analysis Centers		11.571	12.028	12.097	11.922	11.735	12.017	12.303	Cont.	Cont.
<p>A. Mission Description and Budget Item Justification: The Defense Technical Information Services Program Element provides resources for the Defense Technical Information Center (DTIC) and the DoD Information Analysis Centers (IACs). DTIC's mission and function is to provide for the centralized operation of DoD Services for the acquisition, storage, retrieval, and dissemination of Scientific and Technical Information (STI), including data which is restricted, controlled and/or classified. DTIC also functions as the central activity within the DoD for exploring and applying advanced techniques and technology to DoD STI systems and for developing improvements in service and STI transfer effectiveness, and administratively manages the IAC program. The purpose of the program is to permit timely and effective exchange of information, to improve research, to avoid unnecessary duplication of effort and resources, and to improve decision making. DTIC's concept of operations is to function as the front door to DoD unclassified and unlimited information resources for customers internal and external to DoD; as the door to controlled information resources for internal DoD use; and as a repository and processor for STI and one-stop shopping. The military, universities, managers, scientists, engineers, and contractors look to DTIC for leadership in the advancement of information access and sharing. The IACs are contractor-operated research organizations chartered by OSD to collect, analyze, synthesize and disseminate worldwide scientific and technical information in specialized fields to prevent re-inventing research and to promote standardization within these fields. The Program Management Office provides management and oversight of the 13 DTIC funded IACs. DTIC currently serves more than 4800 organizations located in the U.S. and overseas. The Program Element is under Budget Activity 6, RDT&E Management Support, which provides for the support of operations required for general research and development and not allocable to specific missions.</p> <p>*Projects under this Program Element are not new starts. As part of the Defense Reform Initiative, management control</p>										
Page 1 of 6										

UNCLASSIFIED

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<p>of DTIC was transferred from the Director, Defense Research and Engineering to the Director, Defense Information Systems Agency effective 30 January 1998.</p> <p><u>FY 1998 Accomplishments:</u> Resourced through the Defense Logistics Agency.</p> <p><u>FY 1999 Plans:</u></p> <p>DTIC: Funds ongoing basic operations including the output of products and services, personnel, maintenance of equipment, and payment for support services, i.e., personnel services, building services and maintenance, legal support, etc., paid to other government agencies via Inter-service Support Agreements (1 Qtr - 4 Qtr; \$29.531 Million).</p> <ul style="list-style-type: none"> o Business Process Reengineering - Manage the BPR effort for the Director, Defense Research and Engineering (DDR&E). Efforts consist of reengineering the process to collect research effort information at the work unit level in the Technical Effort and Management System (TEAMS); expand the Science & Technology (S&T) Infoweb virtual database to include the S&T manpower data from Defense Manpower Data Center; expand S&T Electronic Business Operations through the use of the S&T Collaboration tool (1 Qtr - 4 Qtr; \$2.286 Million). o Modernization - Enhance the Electronic Document Management System capabilities to include electronic input and delivery and complete the integration effort for conversion from microfiche/microfilm formats to digital image. Expand the Defense Virtual Library to include sound/video, using national standards for cataloging, metadata and resource identification. Further incorporate multimedia objects into DTIC's information products in the video streaming, teleconferencing and distance learning technology areas, with the goal of producing complex multimedia documents. Continue efforts to redefine and replace DTIC's 30 year-old primary online system (Defense Research & Development Test and Evaluation Online System (DROLS)). Define a modular web-based architecture for DTIC's online system. Implement internet credit card pre-authorization using U.S. Treasury payment server. Coordinate DoD joint & service level participation in the Defense Knowledge Network (2 Qtr - 4 Qtr; \$1.947 Million). <p>IAC: Funds ongoing program management operations for personnel, communications, security, etc. including promoting awareness of IAC capabilities. Implement the Web based version of Performance Results Evaluation and Management Information System (PREMIS). Start integration with the Office Filing System (OFS) which provides an electronic capability for seamless program operations and processes. Identify and manage government information collections abandoned by disestablished organizations that should be transferred and incorporated into the IAC program. Negotiate/conduct three new competitive procurements (1 Qtr - 4 Qtr; \$1.438 Million).</p>		
Page 2 of 6		

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/06	R-1 ITEM NOMENCLATURE Defense Technical Information Services/0605801K	
<p>o Provides basic IAC core operations, contracting officer's technical representative and security office support for each of the DTIC sponsored, contractor operated IACS (1 Qtr - 4 Qtr; \$10.133 Million). Examples of planned accomplishments include:</p> <ul style="list-style-type: none"> o Support the warfighter with push/pull technology to provide services and create unique products which will ensure military technological superiority. o Provide substantial science and technology information in support of the Defense Technology Objectives and the Joint Warfighter Science and Technology Plan to develop and transition superior technology which enables an affordable and decisive military capability. o Identify, collect, and process new and existing classified STI for developing unclassified synopsis for broader information dissemination. o Incorporate future modernization techniques and equipment to provide state-of-the-art electronic access and dissemination of IAC products and services. o Continue conversion of fragile historical archives into electronic media to preserve critical information and provide a totally paperless environment. o Implement Information Assurance tools to automate and disseminate classified information through secure networks. o Consolidate IAC websites at DTIC for improved security and commonality for DoD Web/NIPRNET/SIPRNET. <p>\$45.335M Total</p> <p><u>FY 2000 Plans:</u></p> <p>DTIC: Funds ongoing basic operations including the output of products and services, personnel, maintenance of equipment, and payment for support services, i.e., personnel services, building services and maintenance, legal support, etc. paid to other government agencies via Inter-service Support Agreements (1 Qtr - 4 Qtr; \$29.973 Million).</p> <ul style="list-style-type: none"> o Business Process Reengineering - Manage BPR efforts for the Director, Defense Research and Engineering (DDR&E). Efforts will focus on reengineering the Technical Effort and Management System (TEAMS); conducting a prototype; redesigning the Science & Technology planning process to identify and track research efforts throughout the entire weapon system life cycle; and reengineering the process to capture RDT&E infrastructure costs (1 Qtr - 4 Qtr; \$2.592 Million). 		
Page 3 of 6		

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/06	R-1 ITEM NOMENCLATURE Defense Technical Information Services/ 0605801K	
<p>o Modernization - Expand efforts to improve the receipt, storage, and dissemination of full text information in electronic formats. Enhance the Electronic Document Management System to include new indexing/searching capabilities and output formats/products. Develop capabilities of the Defense Virtual Library that will identify key government and commercial information sources and present them in a customized, integrated manner to foster collegial effort in specific DoD communities. Begin implementing the replacement of the Defense RDT&E Online system, extend to classified information and other online systems by identifying and establishing an integrated three tier architecture. Further the dissemination of DTIC products and training through application of distance learning, next generation search and retrieval and full multimedia capabilities, including color images, visualization tools, and audio/video streams. Begin incorporation of Defense Knowledge Network principles into DTIC's architecture (1 Qtr - 4 Qtr; \$2.062 Million).</p> <p>IAC: Funds ongoing program management operations for personnel, communications, etc. including promoting awareness of IAC capabilities. Enhance the integration of the Performance Results Evaluation and Management Information System (PREMIS) and the Office Filing System (OFS) providing electronic capabilities for seamless program operations and processes. Continue to identify and manage government information collections abandoned by disestablished organizations that should be transferred and incorporated into the IAC program. Negotiate/conduct two new competitive procurements (1 Qtr - 4 Qtr; \$1.362 Million).</p> <p>o Provide basic core operations; contracting officer's technical representative, and security office support for each of the DTIC sponsored, contractor operated IACs (1 Qtr - 4 Qtr; \$10.666 Million). Examples of planned accomplishments include:</p> <ul style="list-style-type: none"> o Provide substantial science and technological information in support of the Defense Technology Objectives and the Joint Warfighter Science and Technology Plan to develop and transition superior technology which enables affordable and decisive military capabilities. o Incorporate future modernization techniques and equipment to provide state-of-the-art electronic access and dissemination of IAC products and services. o Update and monitor secure systems. o Exploit foreign exchange of authorized information through links previously established with DoD operational, intel, and other government agencies. o Pursue, identify, develop and/or implement new and innovative technologies with potential for overcoming existing barriers to information communication among the IAC user community. 		
Page 4 of 6		

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/06	R-1 ITEM NOMENCLATURE Defense Technical Information Services/0605801K	
<ul style="list-style-type: none"> o Benchmark private sector Performance Monitoring Standards to PREMIS, and leverage results for PREMIS matrix. \$46.655M Total <p><u>FY 2001 Plans:</u></p> <p>DTIC: Funds ongoing basic operations of products and services, personnel, maintenance of equipment, and payment for support services, i.e., personnel services, building services and maintenance, legal support, etc., paid to other government agencies via Inter-service Support Agreements (1 Qtr - 4 Qtr; \$29.396 Million).</p> <ul style="list-style-type: none"> o Business Process Reengineering - BPR efforts will focus on the Technical Effort and Management System (TEAMS); Implementation and expansion of the Science & Technology InfoWeb virtual database to include the RDT&E Infrastructure Cost Based Management Tool, and reengineering S&T processes identified by the S&T Executive Working Group (1 Qtr - 4 Qtr; \$2.632 Million). o Modernization - Develop the software for the enhanced capabilities for the Electronic Document Management System. Expand capabilities of the Defense Virtual Library with emphasis on the inclusion of restricted material requiring authentication and validation. Integrate and implement new hardware and software tools for modernization of DTIC's online system. Convert legacy applications to the new modular three tier architecture. Develop application software to provide enhanced functional capabilities for the Electronic Document Management System. Enhance application of distance learning capabilities (2 Qtr - 3 Qtr; \$1.604 Million). <p>IAC: Funds ongoing program management operations for personnel, communications etc. including promoting awareness of IAC capabilities. Enhance the Performance Results Evaluation and Management Information System (PREMIS) and Office Filing System (OFS) to provide more electronic capability for seamless program operations and processes. Identify and manage government information collections abandoned by disestablished organizations that should be transferred and incorporated into the IAC program. Negotiate/conduct two new competitive procurements (1 Qtr - 4 Qtr; \$1.239 Million).</p> <ul style="list-style-type: none"> o Provides basic core operations; contracting officer's technical representative, and security office support for each of the DTIC sponsored, contractor operated IACs (1 Qtr - 4 Qtr; \$10.858 Million). Examples of planned accomplishments include: 		
Page 5 of 6		

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999																																			
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/06	R-1 ITEM NOMENCLATURE Defense Technical Information Services/0605801K																																				
<ul style="list-style-type: none"> o Continue to provide substantial science and technological information in support of the Defense Technology Objectives and the Joint Warfighter Science and Technology Plan to develop and transition superior technology which enables an affordable and decisive military capability. o Assimilate future modernization techniques and equipment to provide state-of-the-art electronic access and dissemination of IAC products and services. o Enhance efforts to totally convert fragile historical archives into electronic media to preserve critical information and provide a totally paperless environment. o Update and monitor secure systems. o Incorporate new and innovative technologies with the potential for overcoming existing barriers to information communications among the IAC user community. <p style="margin-left: 20px;">\$45.729M Total</p> <p>B. <u>Program Change Summary:</u></p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: center; border-bottom: 1px solid black;">FY 98</th> <th colspan="3" style="text-align: center; border-bottom: 1px solid black;">Cost in Millions</th> </tr> <tr> <th style="text-align: left;"></th> <th style="text-align: center; border-bottom: 1px solid black;">FY 99</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 00</th> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">FY 01</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Previous President's Budget (FY 1999)</td> <td style="text-align: right;">\$46.469</td> <td style="text-align: right;">\$46.702</td> <td colspan="2" style="text-align: right;">\$45.532</td> </tr> <tr> <td style="text-align: left;">Appropriated Value</td> <td style="text-align: right;">\$45.469</td> <td></td> <td colspan="2"></td> </tr> <tr> <td style="text-align: left;">Adjustments to Appropriated Value</td> <td style="text-align: right;">- .134</td> <td></td> <td colspan="2"></td> </tr> <tr> <td style="text-align: left;">Adjustment to Budget Year since FY 1999 President's Budget</td> <td></td> <td style="text-align: right;">-.047</td> <td colspan="2" style="text-align: right;">.197</td> </tr> <tr> <td style="text-align: left;">Current Budget Submission/President's Budget (FY 2000)</td> <td style="text-align: right;">\$45.335</td> <td style="text-align: right;">\$46.655</td> <td colspan="2" style="text-align: right;">\$45.729</td> </tr> </tbody> </table> <p style="margin-left: 20px;">Change Summary Explanation: Fiscal Year 1999 changes due to congressional adjustments to Defense-wide RDT&E appropriation. Fiscal Year 2000 and 2001 changes due to revised inflation rates.</p> <p>C. <u>Other Program Funding Summary:</u> No related efforts.</p>				FY 98	Cost in Millions				FY 99	FY 00	FY 01		Previous President's Budget (FY 1999)	\$46.469	\$46.702	\$45.532		Appropriated Value	\$45.469				Adjustments to Appropriated Value	- .134				Adjustment to Budget Year since FY 1999 President's Budget		-.047	.197		Current Budget Submission/President's Budget (FY 2000)	\$45.335	\$46.655	\$45.729	
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Page 6 of 6																																					

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE C3 Interoperability 0208045K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element	24.457	26.219	27.366	28.962	29.756	30.647	31.499	32.376	Contg	Contg
Center for Standards/T20	1.196	0*	0	0	0	0	0	0	Contg	Contg
Technology Assessment and Insertion/T80	.582	0**	0	0	0	0	0	0	Contg	Contg
Test and Evaluation/T30	14.670	17.110	17.750	18.849	19.437	20.104	20.699	21.446	Contg	Contg
Major Range Test Facility Base (MRTFB)/T40	8.009	9.109	9.616	10.113	10.319	10.543	10.800	10.930	Contg	Contg

A. Mission Description and Budget Item Justification:

Ensures that projects, programs, systems and subsystems implemented under the Defense Information Infrastructure (DII) are technically sound and operationally effective and suitable through test, evaluation and Compatability, Interoperability, and Integration (CII) certification. The CII of DII systems is addressed in multiple DoD regulations, which require new or modified programs to interact and interface with the DII. The emphasis in performing DII Test and Evaluation (T&E) is to determine the extent and success of full compatability, integration, interoperability and standards compliance of systems within the context of the DII framework. Functions as an Operational Test Agency (OTA) to test/certify the operational effectiveness and suitability of the Defense Information Systems Network (DISN), Defense Message System (DMS), Global Command and Control System (GCCS), and other strategic systems. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.

* Project T20, Center for Standards, has been realigned to PE 0303149K, C4I for the Warrior.

** Project T80, Technology Assessment and Insertion, has been realigned to PE 0303126K, Long Haul Communications, Project T82.

Page 1 of 12

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999			
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE				
RDT&E, Defense-Wide/07	C3 Interoperability 0208045K				
B. <u>Program Change Summary:</u>					
	<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	
Previous President's Budget (FY 1999)	24.913	26.296	27.807	29.380	
Appropriated Value	25.670	26.296			
Adjustments to Appropriated Value	-1.213	-.77			
Adjustments to Budget Year Since FY 1999 President's Budget			-.441	-.418	
Current Budget Submit/President's Budget (FY 2000)	24.457	26.219	27.366	28.962	
Change Summary Explanation:					
Funding: FY98 changes due to undistributed congressional adjustments to Defense-wide RDT&E appropriation and below-threshold reprogramming.					
FY99 changes due to undistributed congressional adjustments to Defense-wide RDT&E appropriation.					
FY00-FY01 changes due to revised inflation rates.					
Page 2 of 12					

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		C3 Interoperability/0208045K				Test and Evaluation/T30				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	14.670	17.110	17.750	18.849	19.437	20.104	20.699	21.446	Contg	Contg
<p>A. Mission Description & Budget Item Justification: Through effective life cycle test and evaluation (T&E), this project ensures the Defense Information Infrastructure (DII) systems meet the information needs of the warfighter by determining effectiveness and suitability as well as the extent of compatibility, integration, interoperability, and standards compliance of the system within the DII, based on criteria established by the warfighters. T&E is performed throughout the life cycle including proof-of-concept, system development, system deployment, and system upgrade and modification.</p> <p><u>FY 1998 Accomplishments:</u></p> <ul style="list-style-type: none"> o Provided Operational Test and Evaluation (OT&E) of DoD's major C4I programs, such as DMS, GCCS, and DISN, for operational effectiveness and suitability by documenting critical operational issues through an appropriate test, and referring results to the decision authority. Performed Limited User Field Test (LUFT) of DMS version 1.1; Operational Assessment of DMS version 2.0A; and Operational Test and Evaluation of Global Command and Control System (GCCS) version 3.0. Performed Y2K testing on DMS 1.1b components. Provided support for testing, training and implementation of Navy's DMS Target systems. Upgraded the Navy NOVA (not an acronym) System from a 2 Drive System to a 4 drive system, doubling message storage/retention capabilities. Conducted implementation of Common User Digital Information Exchange System (CUDIXS) Release 11.1 at Norfolk, VA, which will reduce potential backlog situations. (Oct 97 - Sep 98, \$5.639M) o Provided test, evaluation and certification of C4I systems to ensure interoperability within and between systems, the sustaining base, the National Command Authority, and Service echelons and allies. Conducted T1/E1 and tactical switch interface tests. Performed Tactical Data Information Link (TADIL) A/B certification testing of Air Defense Tactical Operations Center (ADTOC). Completed testing of ARC-210 629F-7 terminal with AM-7526/ARC high power amplifier and Satellink low noise preamplifier/diplexer. Conducted the Deployed Internetworking Test (DIT) for certification of the Unit Level Circuit Switch Global Version 3D, ESOP, TPN, and TYC-39A. Included assessments of MSQ-126, TSQ-215, SOCOM SCAMPI, DISN STEP, Army TMS(DMS) and Force XXI initiatives. (Oct 97 - Sep 98, \$5.921M) 										
Page 3 of 12										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		C3 Interoperability/0208045K				Test and Evaluation/T30				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	14.670	17.110	17.750	18.849	19.437	20.104	20.699	21.446	Contg	Contg
<p>o Provided technical and operational support and expertise to CINCs, Services and Agencies during exercises, real world contingencies and operational assessments. Provided Lessons Learned Reports on NIPRNET/SIPRNET addressing current interoperability problems and solutions. Supported OPERATION DESERT THUNDER by providing joint architecture interoperability on-site data, VTC, voice, COMSEC, and transmission systems interoperability assistance. Provided support to the following exercises: ROVING SANDS, COBRA GOLD, UNIFIED ENDEAVOR, COMBINED ENDEAVOR, BRIGHT STAR, etc. Published four issues of Lessons Learned Report with 1800 copies distributed to 1400 different warfighter units. Responded to approximately 250 hotline calls for technical assistance. (Oct 97 - Sep 98, \$3.110M)</p> <p>o Total \$14.670M</p> <p><u>FY 1999 Plans:</u></p> <p>o Provide test and evaluation of DoD's major C4I programs, such as DMS, GCCS, and DISN, by certifying critical requirements are supported by interoperable functionalities. Evaluate systems' operational effectiveness and suitability for fielding by documenting critical operational issues through an appropriate test, and referring results to the decision authority. Provide support for testing, training and implementation of Navy's DMS Target systems. (Oct 98 - Sep 99, \$7.016M)</p> <p>o Support production decisions of the Defense Acquisition Board (DAB) and fielding decisions of the Chairman, Joint Chiefs of Staff (CJCS) by providing test, evaluation and certification of C4I systems to ensure interoperability within and between systems, the sustaining base, the National Command Authority, and Service echelons and allies. (Oct 98 - Sep 99, \$6.729M)</p> <p>o Provide technical and operational support and expertise to CINCs, Services and Agencies during exercises, real world contingencies and operational assessments. Provide Lessons Learned Reports on NIPRNET/SIPRNET addressing current interoperability problems and solutions. (Oct 98 - Sep 99, \$3.365M)</p> <p>o Total \$17.110M</p>										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07			C3 Interoperability/0208045K				Test and Evaluation/T30			
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	14.670	17.110	17.750	18.849	19.437	20.104	20.699	21.446	Contg	Contg
<p><u>FY 2000 Plans:</u></p> <ul style="list-style-type: none"> o Provide test and evaluation of DoD's major C4I programs, such as DMS, GCCS, and DISN, by certifying critical requirements are supported by interoperable functionalities. Evaluate systems' operational effectiveness and suitability for fielding by documenting critical operational issues through an appropriate test, and referring results to the decision authority. (Oct 99 - Sep 00, \$5.142M) o Support production decisions of the Defense Acquisition Board (DAB) and fielding decisions of the Chairman, Joint Chiefs of Staff (CJCS) by providing test, evaluation and certification of C4I systems to ensure interoperability within and between systems, the sustaining base, the National Command Authority, and Service echelons and allies. (Oct 99 - Sep 00, \$4.776M) o Provide technical and operational support and expertise to CINCs, Services and Agencies during exercises, real world contingencies and operational assessments. Provide Lessons Learned Reports on NIPRNET/SIPRNET addressing current interoperability problems and solutions. (Oct 99 - Sep 00, \$2.413M) o Provide support for testing, training and implementation of the Navy's DMS Target systems. Evaluate DMS components within the Navy's existing and target architecture, providing results and lessons learned. (Oct 99 - Sep 00, \$5.419M) o Total \$17.750M <p><u>FY 2001 Plans:</u></p> <ul style="list-style-type: none"> o Provide test and evaluation of DoD's major C4I programs, such as DMS, GCCS, and DISN, by certifying that critical requirements are supported by interoperable functionalities. Evaluate systems' operational effectiveness and suitability for fielding by documenting critical operational issues through an appropriate test, and referring results to the decision authority. (Oct 00 - Sep 01, \$5.458M) o Support production decisions of the Defense Acquisition Board (DAB) and fielding decisions of the Chairman, Joint 										

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Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07			C3 Interoperability/0208045K				Test and Evaluation/T30			
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	14.670	17.110	17.750	18.849	19.437	20.104	20.699	21.446	Contg	Contg
<p>Chiefs of Staff (CJCS) by providing test, evaluation and certification of C4I systems to ensure interoperability within and between systems, the sustaining base, the National Command Authority, and Service echelons and allies. (Oct 00 - Sep 01, \$5.237M)</p> <ul style="list-style-type: none"> o Provide technical and operational support and expertise to CINCs, Services and Agencies during exercises, real world contingencies and operational assessments. Provide Lessons Learned Reports on NIPRNET/SIPRNET addressing current interoperability problems and solutions. (Oct 00 - Sep 01, \$2.580M) o Provide support for testing, training and implementation of the Navy's DMS Target systems. Evaluate DMS components within the Navy's existing and target architecture, providing results and lessons learned. (Oct 00 - Sep 01, \$5.574M) o Total \$18.849M <p>B. <u>Other Program Funding Summary</u>: N/A</p> <p>C. <u>Acquisition Strategy</u>: This project is supported by a competitively awarded, non-personal services contract composed of three prime contracts with multiple sub-contracts. The contracts, which are cost plus award fee, provide maximum flexibility in assignment of tasks for cost and technical effectiveness, and allow for expansion and contraction of staff years as workload expands and contracts.</p> <p>D. <u>Schedule Profile</u>:</p> <p><u>FY 1998</u> 2nd Quarter - DMS 1.1/1.2/2.0 Y2K; DMS effectiveness database upgrade; DMS 2.0 Operational Assessment; DMS 1.1 Limited User Field Test; GCCS(T)v2.2 interoperability certification; DISN Operational Test & Evaluation status report; NOVA (not an acronym) operational assessment and software patch 9.5 implementation; Multi-Level Mail Server (MMS) site surveys, new software tests, operational assessments and certification testing; Functional Equivalency Testing on new DMS platforms; interoperability testing of transition systems with the DMS Target architecture; TADIL/US Message Text Format (USMTF) certifications; contingency/warfighter support.</p>										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		C3 Interoperability/0208045K				Test and Evaluation/T30				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	14.670	17.110	17.750	18.849	19.437	20.104	20.699	21.446	Contg	Contg
<p>4th Quarter - DISN cutover database, circuit cutover status charts, detailed status reports, access notification and cooperative test; TADIL/USMTF certifications; network C4I assessments; contingency/warfighter support; Deployed Internetworking Test; Joint Users Switch; Secure Mobile Anti-Jam Reliable Tactical Terminal IOT&E.</p> <p><u>FY 1999 - FY 2005</u></p> <p>1st Quarter to 4th Quarter</p> <p>TADIL/USMTF certifications; Operational Test and Evaluation of new releases of DMS and GCCS; continue test and evaluation of DISN and systems interfacing with DISN; contingency and exercise support; Lessons Learned Reports and hotline technical support; operational assessments and implementations of Navy transition and target systems; interoperability testing and certification of scheduled DoD C4I systems.</p>										
Page 7 of 12										

Exhibit R-3 Cost Analysis										DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07			C3 Interoperability/0208045K				Test and Evaluation/T30					
<u>Test and Evaluation</u>												
Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Engineering/Technical Services	CPAF/C	BDM Ft Hua, AZ	3.177	2.562	03/99	2.722	03/00	2.967	03/01	1.500	12.928	12.928
	CPAF/C	Interop Ft Hua, AZ	2.814	2.190	03/99	2.350	03/00	2.597	03/01	1.300	11.251	11.251
	CPAF/C	Validity Ft Hua, AZ	2.820	2.193	03/99	2.354	03/00	2.599	03/01	1.300	11.266	11.266
Subtotal Contracts				6.945		7.426		8.163				
In house				10.165		10.324		10.686				
Total Project				17.110		17.750		18.849				

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		C3 Interoperability/0208045K				Major Range Test Facility Base/T40				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	8.009	9.109	9.616	10.113	10.319	10.543	10.800	10.930	Contg	Contg
<p>A. Mission Description & Budget Item Justification: This project provides resources to operate DISA's Joint Interoperability Test Command (JITC) which is a member of DOD's Major Range Test Facility Base (MRTFB). Indirect operation/maintenance expenses, testbed maintenance, base operating support and facility and logistics support are included in this project.</p> <p><u>FY 1998 Accomplishments:</u></p> <ul style="list-style-type: none"> o Recurring maintenance of JITC's automated systems to facilitate test and evaluation and maximize use of test assets; maintain the Corporate Database and other microcomputer applications to provide cost accounting reports to track and catalog customer expenses for internal and external processes and customer disclosure; continue to develop automated support for management of contracts, manpower and fiscal resources; provide base operations support to JITC's testing mission. (Oct 97 - Sep 98, \$1.540M) o Maintain and operate the JITC test facilities at Fort Huachuca, AZ; VA and Cheltenham, MD for DOD use; provide other indirect mission support. (Oct 97 - Sep 98, \$6.469M) o Total \$8.009M <p><u>FY 1999 Plans:</u></p> <ul style="list-style-type: none"> o Recurring maintenance of JITC's automated systems to facilitate test and evaluation and maximize use of test assets; maintain the Corporate Database and other microcomputer applications to provide cost accounting reports to track and catalog customer expenses for internal and external processes and customer disclosure; continue to develop automated support for management of contracts, manpower and fiscal resources; provide base operations business support to JITC's testing mission. (Oct 98 - Sep 99, \$1.560M) o Maintain and operate the JITC test facilities at Fort Huachuca, AZ; VA and Cheltenham, MD for DOD use; provide other indirect test mission support. (Oct 98 - Sep 99, \$7.549M) o Total \$9.109M 										

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		C3 Interoperability/0208045K				Major Range Test Facility Base/T40				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	8.009	9.109	9.616	10.113	10.319	10.543	10.800	10.930	Contg	Contg
<p><u>FY 2000 Plans:</u></p> <ul style="list-style-type: none"> o Recurring maintenance of JITC's automated systems to facilitate test and evaluation and maximize use of test assets; maintain the Corporate Database and other microcomputer applications to provide cost accounting reports to track and catalog customer expenses for internal and external processes and customer disclosure; continue to develop automated support for management of contracts, manpower and fiscal resources; provide base operations business support to JITC's testing mission. (Oct 99 - Sep 00, \$1.560M) o Maintain and operate the JITC test facilities at Fort Huachuca, AZ and National Capital Region for DOD use; provide other indirect test mission support. (Oct 99 - Sep 00, \$5.138M) o Maintain and operate the JITC test facilities at Cheltenham, MD for DOD use; provide other indirect test mission support. (Oct 99 - Sep 00, \$2.918M) o Total \$9.616M <p><u>FY 2001 Plans:</u></p> <ul style="list-style-type: none"> o Recurring maintenance of JITC's automated systems to facilitate test and evaluation and maximize use of test assets; maintain the Corporate Database and other microcomputer applications to provide cost accounting reports to track and catalog customer expenses for internal and external processes and customer disclosure; continue to develop automated support for management of contracts, manpower and fiscal resources; provide base operations business support to JITC's testing mission. (Oct 00 - Sep 01, \$1.560M) o Maintain and operate the JITC test facilities at Fort Huachuca, AZ and National Capital Region for DOD use; provide other indirect test mission support. (Oct 00 - Sep 01, \$5.552M) o Maintain and operate the JITC test facilities at Cheltenham, MD for DOD use; provide other indirect test mission support. (Oct 00 - Sep 01, \$3.001M) o Total \$10.113M 										

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Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		C3 Interoperability/0208045K				Major Range Test Facility Base/T40				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	8.009	9.109	9.616	10.113	10.319	10.543	10.800	10.930	Contg	Contg
<p>B. <u>Other Program Funding Summary:</u> N/A</p> <p>C. <u>Acquisition Strategy:</u> This project is supported by a competitively awarded, non-personal services contract composed of three prime contracts with multiple sub-contracts. The contracts, which are cost plus award fee, provide maximum flexibility on assignment of tasks for cost and technical effectiveness, and allow for expansion and contraction of staff years as workload expands and contracts.</p> <p>D. <u>Schedule Profile:</u></p> <p>FY 1998 - FY 2005</p> <p>1st - 4th Quarter: Host Base Operations Support, MRTFB mandated cost accounting information systems, overhead supporting MRTFB, and testbed infrastructure.</p>										
Page 11 of 12										

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Exhibit R-3 Cost Analysis										DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07		C3 Interoperability/0208045K					Major Range Test Facility Base (MRTFB)/T40					
<u>Major Range Test Facility Base (MRTFB)</u>												
Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Engineering/Technical Services	CPAF/C	BDM Ft Hua, AZ	.909	.730	03/99	.790	03/00	.850	03/01	.400	3.679	3.679
	CPAF/C	Interop Ft Hua, AZ	3.063	2.536	03/99	2.596	03/00	2.668	03/01	1.000	11.863	11.863
	CPAF/C	Validity Ft Hua, AZ	.813	.674	03/99	.735	03/00	.795	03/01	.400	3.417	3.417
Subtotal Contracts				3.940		4.121		4.313				
In-house				5.169		5.495		5.800				
Total Project				9.109		9.616		10.113				

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Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE National Military Command System (NMCS) Support/0302016K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element	1.662	1.186	.613	.645	.654	.679	.695	.711	Contg	Contg
NMCS Subsystem Engineering/T50	.291	0*	0	0	0	0	0	0	Contg	Contg
NMCS Command Center Engineering/S32	1.013	1.186	.613	.645	.654	.679	.695	.711	Contg	Contg
Support to Defense Support Activity (DSA)/Z60	.358	0**	0	0	0	0	0	0	0	.358

A. Mission Description and Budget Item Justification:
This program provides concept development, requirements definition, technical specifications, proof-of concept testing, rapid prototyping, technology insertions, systems engineering and integration, and technical assessments for NMCS Command and Control (C2) systems. This support provides informed, decision-making linkage between the National Command Authorities (NCA) and the Commanders-in-Chief of the Unified and Specified Commands. This engineering draws upon improved C2 methodologies and technology insertion opportunities to meet the command, control and information requirements of NCA and CINCs for all crises and security threats involving US military forces. These efforts emphasize interoperability and are designed to contribute directly to the achievement of the global C4I infrastructure. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.

* Beginning FY 99, this project is realigned to PE 0303149K, C4I for the Warrior, Project T50.

** Beginning FY 99, this project is disestablished by direction of the Defense Reform Initiative.

Page 1 of 4

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	R-1 ITEM NOMENCLATURE National Military Command System (NMCS) Support/0302016K	
<p>FY98 Accomplishments:</p> <ul style="list-style-type: none"> o Technical analysis for implementation of improvement to National Airborne Operations Center(NAOC) and Special Air Mission (SAM) aircraft (1st Qtr - 4th Qtr; \$103K). o Engineering support for qualitative operational test and evaluation of major NAOC improvements (1st Qtr - 4th Qtr; \$143K). o Trouble-shooting and support of current NAOC and 89th Wing operations (1st Qtr - 4th Qtr; 120K). o Crisis Management System migration to DII COE (1st Qtr - 4th Qtr; \$ 98K). o Systems Engineering And Management System (SEAMS) (1st Qtr - 4th Qtr; \$157K). o System Test and Evaluation (AMHS, DIRECT, DMS), (1st Qtr - 4th Qtr; \$286K). o NMCS Command Center Systems (NCCS) AMH Test and Evaluation (1st Qtr - 4th Qtr; \$106K). o CINC/JTF prototype enhancements via integration of COTS/GOTS capabilities(1st Qtr; \$291K). o Developed analytical tools used to support assessments of joint warfighting operational plans with the Secretary's guidance (4th Qtr; \$250K). o Examined the ongoing Israeli/US ground-based Theater High Energy Laser and the US Airborne Laser program for system efficiency and program performance (4th Qtr; \$108K). o Total \$1.662M <p>FY99 Plans:</p> <ul style="list-style-type: none"> o Revise and update the Senior Leadership Communications Architecture (SLCA) (1st Qtr - 4th Qtr; \$60K). o Technical analysis for implementation of improvement to NAOC and SAM aircraft (1st Qtr - 4th Qtr; \$104K). o Engineering support of qualitative operational test and evaluation of major NAOC improvements (1st Qtr - 4th Qtr; \$110K). o Trouble-shooting support of current NAOC and 89th Wing operations (1st Qtr - 4th Qtr; \$149K). o Automated Configuration Management for JS and NMCC (1st Qtr - 4th Qtr; \$144K). o NMCC Site R and STRATCOM planning (1st Qtr - 4th Qtr; \$103K). o NMCS DDO Upgrade (1st Qtr - 4th Qtr; \$115K). o NMCS Engineering Support for integration of DII elements (1st Qtr - 4th Qtr; \$150K). o NMCC Relocation Connectivity to JCS and HEMP issues (1st Qtr - 4th Qtr; \$55K). o NMCC Engineering of Com and ADP systems (1st Qtr - 4th Qtr; \$196K). o Total \$1.186M 		
Page 2 of 4		

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999																																																		
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	R-1 ITEM NOMENCLATURE National Military Command System (NMCS) Support/0302016K																																																			
<p><u>FY00 Plans:</u></p> <ul style="list-style-type: none"> o Continue migration of NMCS systems to DII COE (1st Qtr - 4th Qtr; \$120K). o Engineering Test & Evaluation (ET&E) of NMCS upgrades (1st Qtr - 4th Qtr; \$250K). o Plan and engineer NMCS improvements (1st Qtr - 4th Qtr; \$243K). o Total \$0.613M <p><u>FY01 Plans:</u></p> <ul style="list-style-type: none"> o ET&E for NMCC systems relocation (1st Qtr - 4th Qtr; \$124K). o Continue engineering support for NMCC systems improvements/upgrades (1st Qtr - 4th Qtr; \$263K). o Continue engineering support for SITE R systems improvements/upgrades (1st Qtr - 4th Qtr; \$258K). o Total \$0.645M <p><u>B. Program Change Summary:</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: right; width: 10%;">FY98</th> <th style="text-align: right; width: 10%;">FY99</th> <th style="text-align: right; width: 10%;">FY00</th> <th style="text-align: right; width: 10%;">FY01</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget (FY99)</td> <td style="text-align: right;">1.688</td> <td style="text-align: right;">1.189</td> <td style="text-align: right;">1.247</td> <td style="text-align: right;">1.312</td> </tr> <tr> <td>Appropriated Value</td> <td style="text-align: right;">2.064</td> <td style="text-align: right;">1.189</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value</td> <td style="text-align: right;">-.402</td> <td style="text-align: right;">-.003</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Budget Year since FY99 President's Budget</td> <td></td> <td></td> <td style="text-align: right;">-.634</td> <td style="text-align: right;">-.667</td> </tr> <tr> <td>Current Budget Submit/President's Budget (FY00)</td> <td style="text-align: right;">1.662</td> <td style="text-align: right;">1.186</td> <td style="text-align: right;">.613</td> <td style="text-align: right;">.645</td> </tr> </tbody> </table> <p style="padding-left: 20px;">Change Summary Explanation:</p> <ul style="list-style-type: none"> FY98 reduction due to undistributed congressional adjustments to Defense-wide RDT&E appropriation. FY99 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation. FY00 and FY01 reduction due to realignment of a portion of funding in Project S32 to PE0303131K. <p><u>C. Other Program Funding Summary:</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: right; width: 5%;">FY98</th> <th style="text-align: right; width: 5%;">FY99</th> <th style="text-align: right; width: 5%;">FY00</th> <th style="text-align: right; width: 5%;">FY01</th> <th style="text-align: right; width: 5%;">FY02</th> <th style="text-align: right; width: 5%;">FY03</th> <th style="text-align: right; width: 5%;">FY04</th> <th style="text-align: right; width: 5%;">FY05</th> <th style="text-align: right; width: 10%;">To Complete</th> </tr> </thead> <tbody> <tr> <td>Operation & Maintenance</td> <td style="text-align: right;">.683</td> <td style="text-align: right;">.403</td> <td style="text-align: right;">.169</td> <td style="text-align: right;">.131</td> <td style="text-align: right;">.134</td> <td style="text-align: right;">.137</td> <td style="text-align: right;">.140</td> <td style="text-align: right;">.143</td> <td style="text-align: right;">Contg</td> </tr> </tbody> </table> <p><u>D. Acquisition Strategy:</u> Raytheon E-Systems, Arlington, VA; Booz-Allen, Hamilton, Bethesda, MD; and Stanley & Associates Alexandria, VA.</p>				FY98	FY99	FY00	FY01	Previous President's Budget (FY99)	1.688	1.189	1.247	1.312	Appropriated Value	2.064	1.189			Adjustments to Appropriated Value	-.402	-.003			Adjustments to Budget Year since FY99 President's Budget			-.634	-.667	Current Budget Submit/President's Budget (FY00)	1.662	1.186	.613	.645		FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	To Complete	Operation & Maintenance	.683	.403	.169	.131	.134	.137	.140	.143	Contg
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Page 3 of 4																																																				

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RDT&E, Defense-Wide/07	National Military Command System (NMCS) Support/0302016K	
E. <u>Schedule Profile:</u>		
FY98	4 th Qtr	Integrated National C2 Systems
	4 th Qtr	Engineering Management
	4 th Qtr	Engineering Test and Evaluation of NMCS systems
FY99	4 th Qtr	Integrated National C2 Systems
	4 th Qtr	NMCC relocation engineering
	4 th Qtr	Engineering Test and Evaluation of NMCS systems
FY00-05	4 th Qtr	Integrated National C2 Systems
	4 th Qtr	NMCC relocation engineering
	4 th Qtr	Engineering Test and Evaluation of NMCS systems
Page 4 of 4		

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE Defense Information Infrastructure Engineering & Integration/PE 0302019K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total PE Cost: PE 0302019K	3.986	4.777	5.316	5.521	5.513	5.610	5.740	5.871	Contg	Contg
DII Systems Engineering and Support/T62	1.368	.746	.877	.956	.970	.987	1.010	1.032	Contg	Contg
Technology Advancement/A19	.345	0*	0	0	0	0	0	0	Contg	Contg
Modeling & Simulation/E62	0	4.031**	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
Special Projects/T64	.986	0***	0	0	0	0	0	0	Contg	Contg
CINC/JTF C4 Integration/T66	1.287	0****	0	0	0	0	0	0	0	1.287

A. Mission Description and Budget Item Justification: This program element funds efforts involving the following areas: the development and fielding of the Defense Information Infrastructure (DII) Common Operating Environment (COE), engineering support of the DII including resolution of critical interoperability and technical integration issues, and the assessment of C4I initiatives that reside on the DII COE to ensure compatibility, interoperability and technical integration. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.

* Effective FY 1999, this project has been incorporated into Project E62, Modeling and Simulation.

** This project is not a new start. It combines efforts previously performed under Project E61, MILSATCOM, in PE 0303126K and Project A19, Technology Advancement, in PE 0302019K.

*** Effective FY 1999, this project has been realigned to PE 0303131K, Minimum Essential Emergency Communications Network (MEECN), Project T64.

**** Beginning FY 1999, this project was converted from RDT&E to O&M.

Page 1 of 7

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999			
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE				
RDT&E, Defense-Wide/07	Defense Information Infrastructure Engineering & Integration/PE 0302019K				
B. <u>Program Change Summary:</u>					
	<u>FY 98</u>	<u>FY 99</u>	<u>FY 00</u>	<u>FY 01</u>	
Previous President's Budget (FY 1999)	4.119	4.975	5.403	5.618	
Appropriated Value	4.721	4.975			
Adjustments to Appropriated Value	-.735	-.198			
Adjustments to Budget Year Since FY 1999 President's Budget			-.087	-.097	
Current Budget Submit/President's Budget (FY 2000)	3.986	4.777	5.316	5.521	
Change Summary Explanation:					
FY 1998 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation and below threshold reprogramming.					
FY 1999 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation.					
FY 2000 and FY 2001 change due to revised inflation rates.					
Note: Project T62, DII Systems Engineering and Support was formerly titled Defense-wide C3 Architecture and Planning.					
Page 2 of 7					

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> The rapid evolution of the global military environment is driving a major evolution of the DOD force structure and military operations, requiring greater flexibility to meet the global warfighting requirements to rapidly project forces anywhere in the world. This effort supports the DOD communications planning and investment strategy for the successful deployment of DOD information systems by performing a broad spectrum of activities in support of C4I programs. DISA has the lead in DOD for providing modeling and simulation to DOD decision makers—from the OSD level to the war fighter—with services and a suite of tools capable of identifying key decision points that impact DOD command and control information systems. This work is essential to achieve the DISA goal of quality information services at an affordable cost through a deliberate decision management process. These services and tools will: 1) provide modeling and analysis support to the key DISA programs and initiatives of DMS, DISN and EC/EDI; 2) support initial INFOSEC/IW simulation efforts to give DISA the capability to determine the impact of IW attacks on the DII; 3) provide modeling and simulation assessment of the DII's ability to support CINC's, JCS, Services, and other Federal agencies' current and emerging C4ISR mission driven information requirements; 4) enhance the functionality of GOTS tools to engender an integrated environment in support of the modeling and simulation efforts of DISN, DMS, IW, GCSS, GCCS, and the DII; 5) investigate methods linking these models with other GOTS used in information network modeling, design and analysis; 6) explore the available COTS tools appropriate for developing models that will be used for sizing and performance assessment of information system architecture; and 7) stimulate GCCS through induction of combat models and simulations.</p> <p><u>FY1999 Plans:</u></p> <ul style="list-style-type: none"> o DISA Program Manager Support provides modeling and analysis support to the key DISA programs and initiatives of DMS, GCCS, DISN and Electronic Commerce. (\$1,298K) (1st Qtr - 4th Qtr) o Warfighter and CINC Support provides modeling and simulation assessment to evaluate communications and related systems to support CINC's, JCS, Services, and other Federal agencies' current and emerging C4ISR mission driven information requirements. (\$1,635K) (1st Qtr - 4th Qtr) 										
Page 3 of 7										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
<ul style="list-style-type: none"> o Modeling and Simulation Tools provides DOD decision makers--from the OSD level to the warfighter--with a suite of tools capable of identifying key decision points required to carry out their mission in the most effective way. (\$1,098K) (1st Qtr - 4th Qtr). o Total \$4.031M <p><u>FY2000 Plans:</u></p> <ul style="list-style-type: none"> o DISA Program Manager Support will provide (a) DISN performance assessments for the integrated switching and transmission and recommendations for DISN performance improvement; (b) build flexibility into models to support EDS and Public Key Infrastructure (PKI); and (c) review systems design architecture to enhance DMS capability and use the DMS messaging model to evaluate DMS engineering decisions; (d) develop phase III of GCSS for GCCS integration with exercises. (\$1,407K) (1st Qtr - 4th Qtr). o Warfighter and CINC Support will (a) provide ongoing development and executive oversight of Joint C2 representations and ensure Joint Simulation System (JSIMS) interoperability with GCCS by Initial Operational Capability (IOC); (b) Configuration Management plans for Joint Warfare System (JWARS), JSIMS, monitor JCS/J8 instructions and notices providing USAF Expeditionary Force Experiment (EFX) Assessment Support and USCENTCOM "Internal Look" Exercise Support; and (c) Assessment of DII/DISN ability to support USSOUTHCOM during execution of a Major Theater War. (\$1,773K) (1st Qtr - 4th Qtr). o Modeling and Simulation (M&S) Tools will provide evaluation of communication and related systems effects on military campaign outcomes by (a) ensuring availability of network models commensurate with the evolving DISN and technology; (b) enhancing M&S tools to support DISA Vision 2010 objective; (c) enhancing M&S capability to reflect the evolving DISN network and changing network technology development and incremental builds to an integrated M&S tool based on COTS products; (d) model "end-to-end" tactical and strategic DISN network; and (e) support business case studies; (f) perform performance assessment for the DISN Asynchronous Transfer Mode (ATM) network performance modeling and assessment. (\$1,259K) (1st Qtr - 4th Qtr). o Total \$4.439M 										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
<p><u>FY2001 Plans:</u></p> <ul style="list-style-type: none"> o DISA Program Manager Support will: (a) continue DISN performance assessments for the integrated switching and transmission and conduct survivability modeling assessments of the DISN Bandwidth Manager topology; (b) provide system performance assessment and projections based on requirement and technology changes and provide analysis and projection of component performance, specifically the Electronic Commerce Processing Nodes; (c) initiate the collection/analysis of operational system performance and configure test scenarios, and (d) continue GCCS integration with CINC exercises and refine SIMLINK and GTSS based on CINC requirements. (\$1,449K) (1st Qtr - 4th Qtr). o Warfighter and CINC support will provide: (a) post-IOC development and executive oversight of Joint C2 representation and C2/JSIMS interfaces; and (b) exercise monitor Configuration Management Plans for JWARS. (\$1,825K) (1st Qtr - 4th Qtr). o Modeling and simulation tools will: (a) continue to enhance M&S capability to reflect the evolving DISN network; (b) continue development and incremental builds to an integrated M&S tool based on COTS products end-to-end; (c) enhance existing COTS M&S tools to support network performance modeling and assessment, reflecting DISN user requirements; (d) evaluate the functionality of tools for integrating C4I concepts into network modeling/analyses/assessments; (e) enhance M&S tools to support DISA Vision 2010 objectives. (\$1,291K) (1st Qtr - 4th Qtr). o Total \$4.565M 										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999																	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER																				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62																				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost																
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg																
<p>B. <u>Other Program Funding Summary:</u> O&M funding</p> <table border="1"> <thead> <tr> <th><u>FY1999</u></th> <th><u>FY2000</u></th> <th><u>FY2001</u></th> <th><u>FY2002</u></th> <th><u>FY2003</u></th> <th><u>FY2004</u></th> <th><u>FY2005</u></th> <th><u>To Complete</u></th> </tr> </thead> <tbody> <tr> <td>4.415</td> <td>4.792</td> <td>5.192</td> <td>5.296</td> <td>5.471</td> <td>5.639</td> <td>5.811</td> <td>Contg</td> </tr> </tbody> </table> <p>C. <u>Acquisition Strategy:</u> Work will continue under existing contract vehicles.</p> <p>D. <u>Schedule Profile</u></p> <p>FY99 - M&S support to the key DISA programs, 1st Qtr - 4th Qtr Modeling and simulation assessment to support CINC's, JCS, Services, and other Federal agencies, 1st Qtr - 4th Qtr Identify key decision points for decision makers from the OSD level to the warfighter, 1st Qtr - 4th Qtr</p> <p>FY00 - Support key DISA programs, (a) DISN performance assessments and (b) support to EDA and PKI, 1st Qtr - 4th Qtr Support JWARS and JSIMS IMS 1st Qtr - 4th Qtr Identify key decision points by ensuring availability of network models, 1st Qtr - 4th Qtr</p> <p>FY01 - Support to the key DISA programs, especially integrated switching and transmission, 1st Qtr - 4th Qtr Provide post-IOC development and oversight of Joint C2 representation and C2/JSIMS interfaces, 1st Qtr - 4th Qtr Enhance M&S capability to reflect the evolving DISN network, 1st Qtr - 4th Qtr</p> <p>FY02 - FY05 Continue to provide M&S support to the key DISA programs, 1st Qtr - 4th Qtr Continue to provide M&S assessment to CINC's, JCS, Services, and other Federal agencies, 1st Qtr - 4th Qtr Continue to identify key decision points for decision makers, 1st Qtr - 4th Qtr</p>											<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>	<u>FY2005</u>	<u>To Complete</u>	4.415	4.792	5.192	5.296	5.471	5.639	5.811	Contg
<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>	<u>FY2005</u>	<u>To Complete</u>																			
4.415	4.792	5.192	5.296	5.471	5.639	5.811	Contg																			

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Exhibit R-3 Cost Analysis										DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07			DII Engineering & Integration/0302019K				Modeling & Simulation/E62					
Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation	FFRDC	MITRE, McLean, Va.		1.895	1/99	1.918	1/00	1.941	1/01	Contg	Contg	10.605
	CPFF	SAIC Arlington, Va.		1.636	3/99	1.979	3/00	2.066	3/01	Contg	Contg	17.638
		Other		.500	12/98	.542	12/99	.558	12/00	Contg.	Contg	3.896
Subtotal Product Development				4.031		4.439		4.565		Contg	Contg	
Total Costs				4.031		4.439		4.565		Contg	Contg	

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Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE Long Haul Communications/0303126K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element (PE)	13.387	11.510	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg
DISN Systems Engineering Support/T82	0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg
Leading Edge Pilot Info. Technologies/E26	2.930	0*	0	0	0	0	0	0	0	Contg
MILSATCOM & DII Planning/E61	3.887	0**	0	0	0	0	0	0	0	Contg
Defense Information Systems Network Acquisition/H20	6.119	10.286	0	0	0	0	0	0	0	16.405
White House Situation Support Staff/W90	0.451	0***	0	0	0	0	0	0	0	0.451
<p>A. <u>Mission Description and Budget Item Justification:</u> This program element funds system engineering for the Defense Information Systems Network (DISN) which provides defense-wide communications for the day-to-day operations of the DOD and serves as the core of DOD wartime communications for the National Command Authority (NCA), the Joint Chiefs of Staff (JCS), the Commanders-in Chief (CINCs), and other critical users. It provides for the engineering to consolidate the operational communications networks into DISN. This PE funds the critical and essential engineering required to use commercial equipment and service offerings, to implement the rapidly advancing communications technology, and to update the network design tools so as to continue providing tremendous cost savings, and to continue offering valuable new cost effective information technology capabilities and services to customers. It provides for the cost effective development of needed information technology capabilities by targeting RDT&E efforts to DOD mission needs. This PE supports the military requirements identified by Joint Mission Needs Statement (JMNS) and Joint Capstone Requirements Document (JCRD). The program element is under Budget Activity 07 because it involves efforts supporting operational systems development.</p>										

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999			
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE				
RDT&E, Defense-Wide/07	Long Haul Communications/0303126K				
B. <u>Program Change Summary:</u>	<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	
Previous President's Budget (FY 1999)	13.693	11.561	1.338	1.450	
Appropriated Value	14.520	11.561			
Adjustments to Appropriated Value	-1.133	-.051			
Adjustments to Budget Year since FY 1999 President's Budget			-.022	-.025	
Current Budget Submission/President's Budget (FY 2000)	13.387	11.510	1.316	1.425	
Change Summary Explanation:					
FY 1998 reduction is due to undistributed congressional adjustments to Defense-wide RDT&E appropriation and below threshold reprogramming.					
FY 1999 reduction is due to undistributed congressional adjustments to Defense-wide RDT&E appropriation.					
FY 2000 and FY 2001 changes are due to revised inflation rates.					
* Beginning in FY 1999, Project E26, Leading Edge Pilot Information Technologies is realigned to PE 0604764K, Advanced Information Technology Services Joint Program Office.					
** Beginning in FY 1999, Project E61, MILSATCOM & DII Planning is incorporated into Project E62, Modeling & Simulation in PE 0302019K, Defense Information Infrastructure Engineering and Integration.					
*** Beginning in FY 1999, Project W90, White House Situation Support Staff is realigned to the O&M appropriation.					
Page 2 of 6					

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Long Haul Communications/0303126K				DISN Systems Engineering Support/T82				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> This project funds the critical and essential engineering to continue providing cost savings and to offer valuable new cost-effective information technology capabilities and services to customers. It funds systems engineering to reduce the risks and delays of implementing new communications technologies by performing assessments and proof of concept implementations. It also provides engineering to develop/enhance computer-aided network topology design, analysis and modeling tools to: (a) improve performance and/or reduce cost of operational networks to satisfy customer requirements at lowest cost, (b) analyze/solve problems in operational networks and (c) produce cost-efficient designs for future networks using new technologies.</p> <p><u>FY99 Plans:</u></p> <ul style="list-style-type: none"> o Engineer the insertion of technology into the Defense Information Infrastructure (DII) (1st Qtr - 4th Qtr; \$350K). o Engineering support for Network Engineering Assessment Facility (NEAF) (1st Qtr - 4th Qtr, \$232K). o Develop a DISN Objective ATM private line network topology design and analysis (1st Qtr - 4th Qtr; \$135K). o Upgrade workstations, LAN, and WAN hardware & system software (1st Qtr - 4th Qtr; \$200K). o Develop network topology design algorithms, heuristics and software based on a government prioritized list of enhancements (e.g., specific backbone switches and edge devices selected for DISN Objective ATM network) (1st Qtr - 4th Qtr; \$307K) o Total \$1.224M <p><u>FY00 Plans:</u></p> <ul style="list-style-type: none"> o Engineer the insertion of technology into the DII (1st Qtr - 4th Qtr; \$458K). o Engineering support for Network Engineering Assessment Facility (NEAF) (1st Qtr - 4th Qtr; \$250K). o Upgrade workstations, LAN, and WAN hardware & system software (1st Qtr - 4th Qtr; \$200K). o Develop network topology design algorithms, heuristics and software based on a government prioritized list of enhancements (e.g., specific DISN Service Directory Nodes (SDN) Edge devices) (1st Qtr - 4th Qtr; \$408K). o Total \$1.316M 										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999																																								
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER																																											
RDT&E, Defense-Wide/07		Long Haul Communications/0303126K				DISN Systems Engineering Support/T82																																											
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost																																							
Project Cost	0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg																																							
<p>FY01 Plans:</p> <ul style="list-style-type: none"> o Engineer the insertion of technology into the DII (1st Qtr - 4th Qtr; \$497K) o Engineering support for Network Engineering Assessment Facility (NEAF) (1st Qtr - 4th Qtr; \$275K) o Upgrade workstations, LAN, and WAN hardware & system software (1st Qtr - 4th Qtr; \$200K). o Develop network topology design algorithms, heuristics and software based on a government prioritized list (e.g., wavelength multiplexing and optical switching) (1st Qtr - 4th Qtr; \$453K) o Total \$1.425M <p>B. <u>Other Program Funding Summary:</u></p> <table border="0"> <thead> <tr> <th></th> <th><u>FY98</u></th> <th><u>FY99</u></th> <th><u>FY00</u></th> <th><u>FY01</u></th> <th><u>FY02</u></th> <th><u>FY03</u></th> <th><u>FY04</u></th> <th><u>FY05</u></th> </tr> </thead> <tbody> <tr> <td>Operation & Maintenance</td> <td>1.485</td> <td>1.514</td> <td>1.544</td> <td>1.501</td> <td>1.521</td> <td>1.551</td> <td>1.587</td> <td>1.625</td> </tr> </tbody> </table> <p>C. <u>Acquisition Strategy:</u> General Services Administration, Washington, DC; SETA Corporation, McLean, VA</p> <p>D. <u>Schedule Profile:</u></p> <table border="0"> <tbody> <tr> <td>FY99</td> <td>4th Qtr</td> <td>Voice over ATM technology implementation into DII</td> </tr> <tr> <td></td> <td>4th Qtr</td> <td>ATM Cell Encryption technology implementation into DII</td> </tr> <tr> <td></td> <td>4th Qtr</td> <td>Release #1 of ATM COTS computer-aided network topology design, analysis and modeling tool</td> </tr> <tr> <td>FY00</td> <td>4th Qtr</td> <td>High Bandwidth Network Extension capability implementation into DII</td> </tr> <tr> <td></td> <td>4th Qtr</td> <td>Release #2 of ATM COTS computer-aided network topology design, analysis and modeling tool</td> </tr> <tr> <td>FY01</td> <td>4th Qtr</td> <td>Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)</td> </tr> <tr> <td>FY02</td> <td>4th Qtr</td> <td>Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)</td> </tr> </tbody> </table>												<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	Operation & Maintenance	1.485	1.514	1.544	1.501	1.521	1.551	1.587	1.625	FY99	4 th Qtr	Voice over ATM technology implementation into DII		4 th Qtr	ATM Cell Encryption technology implementation into DII		4 th Qtr	Release #1 of ATM COTS computer-aided network topology design, analysis and modeling tool	FY00	4 th Qtr	High Bandwidth Network Extension capability implementation into DII		4 th Qtr	Release #2 of ATM COTS computer-aided network topology design, analysis and modeling tool	FY01	4 th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)	FY02	4 th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)
	<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>																																									
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FY02	4 th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)																																															

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Exhibit R-2a, RDT&E Project Justification									DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07		Long Haul Communications/0303126K				DISN Systems Engineering Support/T82					
COST (in millions)		FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost		0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg
FY03	4 th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)									
FY04	4 th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)									
FY05	4 th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)									

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Exhibit R-3 Cost Analysis										DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07			Long Haul Communications/PE 0303126K				DISN Systems Engineering Support/T82					
<u>Support Costs:</u>												
<u>Cost Category</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total PYs Cost</u>	<u>FY 99 Cost</u>	<u>FY 99 Award Date</u>	<u>FY 00 Cost</u>	<u>FY 00 Award Date</u>	<u>FY 01 Cost</u>	<u>FY 01 Award Date</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
Systems Engineering	CPAF/ CPIF	Multiple	0	1.224	10/98	1.316	10/99	1.425	10/00	Contg	Contg	N/A

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Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE Support of the National Communications System/P.E. 0303127K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element	4.280	4.415	4.274	5.049	5.124	5.211	5.332	5.455	Contg	Contg
Enhanced Satellite Capability/N092	.519	.420	.420	.430	.435	.440	.482	.525	Contg	Contg
Interoperability/N088	1.958	1.710	1.619	2.339	2.389	2.456	2.450	2.443	Contg	Contg
Information Assurance/N094	.604	.525	.525	.530	.540	.550	.593	.636	Contg	Contg
Advanced Intelligent Network/N091	.868	1.300	1.240	1.280	1.285	1.290	1.332	1.376	Contg	Contg
NS/EP Telecommunications Integration Support/N095	.331	.460	.470	.470	.475	.475	.475	.475	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification</u> This program element supports Executive Order 12472 of 3 April 1984 which assigns the NCS the mission of assisting the President, the National Security Council, the Office of Science and Technology Policy, and the Office of Management and Budget, in exercising their wartime and non-wartime telecommunications functions and responsibilities, and coordinating the planning for, and provisioning of, National Security and Emergency Preparedness (NS/EP) telecommunications for the federal government under all circumstances. To attain this objective, there are several National Security Decision Directives which provide additional guidance to the NCS which require that initiatives be developed that will improve the survivability and interoperability of the commercial telecommunications systems that support national security and emergency preparedness requirements, enhance the potential NS/EP functionality of U.S. commercial satellites, and provide communications support for Government agencies which have responsibilities to carry out their essential functions in any emergency. Enhanced Satellite Capability explores developing satellite technologies and applications which include experiments with NASA's Advanced Communications Technology Satellite (ACTS); secure voice experiments over American Mobile Satellite Corporation Mobile Satellite (AMSAT), and the analysis of the newly proposed low earth</p>										

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Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07		R-1 ITEM NOMENCLATURE Support of the National Communications System/P.E. 0303127K		
<p>systems. Interoperability supports the Federal Telecommunications Standards Program, and ensures interoperability among emerging government communications systems. Information Assurance supports the Public Switched Network (PSN) in mitigating system vulnerabilities and related threats. Advanced Intelligent Network employs newly developed processing capabilities to tailor the extensive telecommunications resources of the PSN. NS/EP Telecommunications Integration provides a test and evaluation program to assess and evaluate the operational readiness and capabilities of NS/EP telecommunications programs, initiatives, and emerging technologies. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.</p>				
B. <u>Program Change Summary</u>				
	<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>
Previous President's Budget (FY 1999)	4.405	4.428	4.344	5.137
Appropriated Value	4.552	4.428		
Adjustments to Appropriated Value	-.272	-.013		
Adjustments to Budget Year Since FY 1999 President's Budget			-.070	-.088
Current Budget Submit/President's Budget (FY2000)	4.280	4.415	4.274	5.049
Change Summary Explanation				
Funding: FY98 & FY99 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation.				
FY00 & FY01 change due to revised inflation rates.				
Page 2 of 9				

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Support of the NCS/0303127K				Interoperability/N088				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	1.958	1.710	1.619	2.339	2.389	2.456	2.450	2.443	Contg	Contg
<p><u>A. Mission Description & Budget Item Justification:</u> This project analyzes new telecommunications technologies and their effects on interoperability of government communications and conducts related technical evaluations and standards development. Supports the Federal Telecommunications Standards Program. Ensures interoperability among emerging government communication systems, including related information systems, by providing the required analyses to the NCS member organizations and other government agencies through the development of initial specification and correlation of standards for specific types of communication and related information systems; the design of initial automated methods for application of standards to systems; the refinement and evaluation of program objectives in evolving technology environment.</p> <p><u>FY1998 Accomplishments:</u></p> <ul style="list-style-type: none"> o Developed network management standards for congestion control in NS/EP services on high-speed networks. (\$550K) (1st Qtr - 4th Qtr) o Developed analyses and contributions to standards in support of NS/EP services priority at intelligent network trigger detection points. (\$511K) (1st Qtr - 4th Qtr) o Conducted assessment of emerging technology and NS/EP applications. (\$400K) (1st Qtr - 4th Qtr) o Developed reliable and secure techniques for wireless networks and services. (\$497K) (1st Qtr - 4th Qtr) o Total \$1.958M <p><u>FY1999 Plans:</u></p> <ul style="list-style-type: none"> o Continue to resolve impediments to interoperability of systems supporting government communications. (\$450K) (1st Qtr - 4th Qtr) o Continue to analyze network management and congestion control of emerging high-speed digital networks to identify and solve NS/EP communication issues. (\$400K) (1st Qtr - 4th Qtr) o Continue to assess emerging technology and NS/EP applications. (\$399K) (1st Qtr - 4th Qtr) o Develop analyses and contributions in support of the development of video teleconferencing and multi-media standards. (\$461K) (1st Qtr - 4th Qtr) o Total \$1.710M 										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Support of the NCS/0303127K				Interoperability/N088				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	1.958	1.710	1.619	2.339	2.389	2.456	2.450	2.443	Contg	Contg
FY2000 Plans: <ul style="list-style-type: none"> o Continue to develop technology, methods, and strategies to help ensure reliability of NS/EP communications through congested networks. (\$580K) (1st Qtr - 4th Qtr) o Continue to develop procedures for analyzing interoperability of NS/EP communications in various stress scenarios and with various information formats (e.g. voice video conferencing). (\$500K) (1st Qtr - 4th Qtr) o Continue to assess, evaluate, and extend advanced wireless communications technology and service for NS/EP communications. (\$539K) (1st Qtr - 4th Qtr) o Total \$1.619M 										
FY2001 Plans: <ul style="list-style-type: none"> o Continue to develop technology, methods, and strategies to help ensure reliability of NS/EP communications through congested networks. (\$590K) (1st Qtr - 4th Qtr) o Continue to develop procedures for analyzing interoperability of NS/EP communications in various stress scenarios and with various information formats (e.g., voice video conferencing). (\$562K) (1st Qtr - 4th Qtr) o Assess advanced, emerging technology for its use by or impact on security and reliability of NS/EP communications (e.g., photonic switching). (\$525K) (1st Qtr - 4th Qtr) o Continue to assess, evaluate, and extend advanced wireless communications technology and services for NS/EP communications. (\$662K) (1st Qtr - 4th Qtr) o Total \$2.339M 										
B. <u>Other Program Funding Summary:</u>										
	<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>	<u>FY2005</u>		
O&M	2.305	2.706	3.130	3.220	3.236	3.163	3.266	3.202		

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Support of the NCS/0303127K				Interoperability/N088				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	1.958	1.710	1.619	2.339	2.389	2.456	2.450	2.443	Contg	Contg
<p>C. <u>Acquisition Strategy:</u></p> <p>Work will continue under existing contract vehicles and new reimbursable orders.</p> <p>D. <u>Schedule Profile</u></p> <p>FY98 - 4th quarter: Receive reports on analysis and contributions on NS/EP applications to multi-media standards. FY99 - 4th quarter: Receive reports and assessments of emerging technology for NS/EP applications. FY00 - 4th quarter: Receive reports on IMT-2000 technology and standards for input to final ITU-T meetings this 4-year study period. FY01 - 4th quarter: Receive reports on strategies for mitigating impact of congestion in high-speed networks (e.g., priority services, intelligent network rerouting). FY02 - 4th quarter: Receive reports on end-to-end priority treatment of NS/EP communications in public networks. FY03 - 4th quarter: Receive reports on impact on NS/EP communications of infrastructure transition to asynchronous transfer mode (ATM) switching. FY04 - 4th quarter: Receive reports on advanced, emerging technologies affecting NS/EP communications. FY05 - 4th quarter: Receive reports on advanced, emerging technologies affecting NS/EP communications.</p>										
Page 5 of 9										

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Exhibit R-3 Cost Analysis											DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07		Support of the NCS/0303127K					Interoperability/N088					
Cost Category	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY99 Cost	FY99 Award Date	FY00 Cost	FY00 Award Date	FY01 Cost	FY01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Technical Support	RO	NTIA Boulder, CO	2.177	.750	05/99	.660	05/00	0	None	0	3.587	3.587
Technical Support	RO	NTIA Boulder, CO	0	0	None	0	None	.700	05/01	3.000	3.700	3.700
Technical Support	TBD	TBD	0	0	None	.200	05/00	.250	05/01	.600	1.050	1.050
Technical Support	RO	NIST Gathersburg, MD	.200	.200	04/99	.200	04/00	.450	04/01	.500	1.550	1.550
Subtotal Support Costs			2.377	.950		1.060		1.400		4.100	9.887	9.887
Handbook Development	RO	NTIA Boulder, CO	.200	.200	06/99	0	None	0	None	0	.400	.400
Report Development	CPAF/ 8(a)	COMtec Herndon, VA	.563	.360	07/99	.359	07/00	.589	07/01	1.050	2.921	2.921
Report Development	CPFF/ 8(a)	ARTEL Reston, VA	.200	.200	05/99	.200	05/00	.350	05/01	.600	1.550	1.550
Subtotal Product Development			.963	.760		.559		.939		1.650	4.871	4.871
Total Cost			3.340	1.710		1.619		2.339		5.750	14.758	14.758

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> The rapid evolution of the global military environment is driving a major evolution of the DOD force structure and military operations, requiring greater flexibility to meet the global warfighting requirements to rapidly project forces anywhere in the world. This effort supports the DOD communications planning and investment strategy for the successful deployment of DOD information systems by performing a broad spectrum of activities in support of C4I programs. DISA has the lead in DOD for providing modeling and simulation to DOD decision makers—from the OSD level to the war fighter—with services and a suite of tools capable of identifying key decision points that impact DOD command and control information systems. This work is essential to achieve the DISA goal of quality information services at an affordable cost through a deliberate decision management process. These services and tools will: 1) provide modeling and analysis support to the key DISA programs and initiatives of DMS, DISN and EC/EDI; 2) support initial INFOSEC/IW simulation efforts to give DISA the capability to determine the impact of IW attacks on the DII; 3) provide modeling and simulation assessment of the DII's ability to support CINC's, JCS, Services, and other Federal agencies' current and emerging C4ISR mission driven information requirements; 4) enhance the functionality of GOTS tools to engender an integrated environment in support of the modeling and simulation efforts of DISN, DMS, IW, GCSS, GCCS, and the DII; 5) investigate methods linking these models with other GOTS used in information network modeling, design and analysis; 6) explore the available COTS tools appropriate for developing models that will be used for sizing and performance assessment of information system architecture; and 7) stimulate GCCS through induction of combat models and simulations.</p> <p><u>FY1999 Plans:</u></p> <ul style="list-style-type: none"> o DISA Program Manager Support provides modeling and analysis support to the key DISA programs and initiatives of DMS, GCCS, DISN and Electronic Commerce. (\$1,298K) (1st Qtr - 4th Qtr) o Warfighter and CINC Support provides modeling and simulation assessment to evaluate communications and related systems to support CINC's, JCS, Services, and other Federal agencies' current and emerging C4ISR mission driven information requirements. (\$1,635K) (1st Qtr - 4th Qtr) 										
Page 3 of 7										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
<p>o Modeling and Simulation Tools provides DOD decision makers--from the OSD level to the warfighter--with a suite of tools capable of identifying key decision points required to carry out their mission in the most effective way. (\$1,098K) (1st Qtr - 4th Qtr).</p> <p>o Total \$4.031M</p> <p><u>FY2000 Plans:</u></p> <p>o DISA Program Manager Support will provide (a) DISN performance assessments for the integrated switching and transmission and recommendations for DISN performance improvement; (b) build flexibility into models to support EDS and Public Key Infrastructure (PKI); and (c) review systems design architecture to enhance DMS capability and use the DMS messaging model to evaluate DMS engineering decisions; (d) develop phase III of GCSS for GCCS integration with exercises. (\$1,407K) (1st Qtr - 4th Qtr).</p> <p>o Warfighter and CINC Support will (a) provide ongoing development and executive oversight of Joint C2 representations and ensure Joint Simulation System (JSIMS) interoperability with GCCS by Initial Operational Capability (IOC); (b) Configuration Management plans for Joint Warfare System (JWARS), JSIMS, monitor JCS/J8 instructions and notices providing USAF Expeditionary Force Experiment (EFX) Assessment Support and USCENTCOM "Internal Look" Exercise Support; and (c) Assessment of DII/DISN ability to support USSOUTHCOM during execution of a Major Theater War. (\$1,773K) (1st Qtr - 4th Qtr).</p> <p>o Modeling and Simulation (M&S) Tools will provide evaluation of communication and related systems effects on military campaign outcomes by (a) ensuring availability of network models commensurate with the evolving DISN and technology; (b) enhancing M&S tools to support DISA Vision 2010 objective; (c) enhancing M&S capability to reflect the evolving DISN network and changing network technology development and incremental builds to an integrated M&S tool based on COTS products; (d) model "end-to-end" tactical and strategic DISN network; and (e) support business case studies; (f) perform performance assessment for the DISN Asynchronous Transfer Mode (ATM) network performance modeling and assessment. (\$1,259K) (1st Qtr - 4th Qtr).</p> <p>o Total \$4.439M</p>										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
<p><u>FY2001 Plans:</u></p> <ul style="list-style-type: none"> o DISA Program Manager Support will: (a) continue DISN performance assessments for the integrated switching and transmission and conduct survivability modeling assessments of the DISN Bandwidth Manager topology; (b) provide system performance assessment and projections based on requirement and technology changes and provide analysis and projection of component performance, specifically the Electronic Commerce Processing Nodes; (c) initiate the collection/analysis of operational system performance and configure test scenarios, and (d) continue GCCS integration with CINC exercises and refine SIMLINK and GTSS based on CINC requirements. (\$1,449K) (1st Qtr - 4th Qtr). o Warfighter and CINC support will provide: (a) post-IOC development and executive oversight of Joint C2 representation and C2/JSIMS interfaces; and (b) exercise monitor Configuration Management Plans for JWARS. (\$1,825K) (1st Qtr - 4th Qtr). o Modeling and simulation tools will: (a) continue to enhance M&S capability to reflect the evolving DISN network; (b) continue development and incremental builds to an integrated M&S tool based on COTS products end-to-end; (c) enhance existing COTS M&S tools to support network performance modeling and assessment, reflecting DISN user requirements; (d) evaluate the functionality of tools for integrating C4I concepts into network modeling/analyses/assessments; (e) enhance M&S tools to support DISA Vision 2010 objectives. (\$1,291K) (1st Qtr - 4th Qtr). o Total \$4.565M 										

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		DII Engineering & Integration/0302019K				Modeling & Simulation/E62				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	4.031	4.439	4.565	4.543	4.623	4.730	4.839	Contg	Contg
B. <u>Other Program Funding Summary:</u> O&M funding										
	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>	<u>FY2005</u>	<u>To Complete</u>		
	4.415	4.792	5.192	5.296	5.471	5.639	5.811	Contg		
C. <u>Acquisition Strategy:</u> Work will continue under existing contract vehicles.										
D. <u>Schedule Profile</u>										
FY99 - M&S support to the key DISA programs, 1 st Qtr - 4 th Qtr Modeling and simulation assessment to support CINC's, JCS, Services, and other Federal agencies, 1 st Qtr - 4 th Qtr Identify key decision points for decision makers from the OSD level to the warfighter, 1 st Qtr - 4 th Qtr										
FY00 - Support key DISA programs, (a) DISN performance assessments and (b) support to EDA and PKI, 1 st Qtr - 4 th Qtr Support JWARS and JSIMS IMS 1 st Qtr - 4 th Qtr Identify key decision points by ensuring availability of network models, 1 st Qtr - 4 th Qtr										
FY01 - Support to the key DISA programs, especially integrated switching and transmission, 1 st Qtr - 4 th Qtr Provide post-IOC development and oversight of Joint C2 representation and C2/JSIMS interfaces, 1 st Qtr - 4 th Qtr Enhance M&S capability to reflect the evolving DISN network, 1 st Qtr - 4 th Qtr										
FY02 - FY05 Continue to provide M&S support to the key DISA programs, 1 st Qtr - 4 th Qtr Continue to provide M&S assessment to CINC's, JCS, Services, and other Federal agencies, 1 st Qtr - 4 th Qtr Continue to identify key decision points for decision makers, 1 st Qtr - 4 th Qtr										
Page 6 of 7										

UNCLASSIFIED

Exhibit R-3 Cost Analysis										DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07			Support of the NCS/0303127K				Advanced Intelligent Network/N091					
Cost Category	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY99 Cost	FY99 Award Date	FY00 Cost	FY00 Award Date	FY01 Cost	FY01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Technical Assistance	CPAF/C	BAH McLean, VA	.645	.261	Various	.201	Various	.220	Various	.250	1.577	1.577
Subtotal Support Costs			.645	.261		.201		.220		.250	1.577	1.577
Lucent Demonstration	Mod/DITCO	Lucent/Lisle, IL	.404	.188	04/99	.188	04/00	.198	04/01	0	.978	.978
Technical Reports	CPFF/SS	Bellcore Piscataway, NJ	2.043	.851	03/99	.851	03/00	.862	03/01	.886	5.493	5.493
Subtotal Product Development			2.447	1.039		1.039		1.060		.886	6.471	6.471
Total Cost			3.092	1.300		1.240		1.280		1.136	8.048	8.048

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Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE Minimum Essential Emergency Communications Network/0303131K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element (PE)	2.242	3.052	3.799	4.023	4.080	4.209	4.305	4.405	Contg	Contg
Strategic C3 Support/T70	2.242	2.020	2.683	2.797	2.835	2.943	3.010	3.080	Contg	Contg
Special Projects	0	1.032	1.116	1.226	1.245	1.266	1.295	1.325	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> This PE has two primary missions. The first focuses on ensuring the implementation of national policy requiring Nuclear Command, Control and Communications (NC3) systems. It supports positive control of nuclear forces, and connectivity between the National Command Authorities (NCA), strategic, and other appropriate forces to assure adequate command and control is maintained throughout all phases of conflict and instability. This support also provides informed decision-making linkage between the NCA and the Commanders-in-Chief (CINCs) of the Unified and Specified Commands. DISA performs this task as Nuclear C3 (NC3) Systems Engineer. It specifically ensures a balanced, integrated capability is maintained. This mission provides direct long range and specialized support to OSD(C3I) and the Joint Staff (JS) for determining which programs should be supported and/or canceled, as well as supports fail safe and risk reduction. The second mission is performing the duties of Senior Leadership Travel Communications Systems Engineer for the President, SECDEF and SECSTATE. This includes making sure the executive aircraft fleet can support all the needs of these offices. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.</p>										
B. <u>Program Change Summary</u>					<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>		
Previous President's Budget (FY99)					2.242	3.061	3.237	3.437		
Appropriated Value					2.381	3.061				
Adjustments to Appropriated Value					-.139	-.009				
Adjustments to Budget Years Since FY99 President's Budget							+.562	+.586		
Current Budget Submit/President's Budget (FY00)					2.242	3.052	3.799	4.023		

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	R-1 ITEM NOMENCLATURE Minimum Essential Emergency Communications Network/0303131K	
<p>Change Summary Explanation: FY98 decrease due to below threshold reprogramming and undistributed congressional adjustments to Defense-wide RDT&E appropriation. FY99 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation. FY00 and FY01 increase due to realignment of a portion of funding from project S32, NMCS Command Center Engineering, PE 0302016K.</p> <p style="text-align: center;">Page 2 of 9</p>		

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Minimum Essential Emergency Communications Network (MEECN)/0303131K				Strategic C3 Support/T70				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	2.242	2.020	2.683	2.797	2.835	2.943	3.010	3.080	Contg	Contg
<p>A. <u>Mission Description & Budget Item Justification</u>: This project has four elements: <u>strategic planning</u>, <u>operational assessments</u>, <u>communications plans</u>, and <u>airborne engineering</u>. Together, these elements perform all of the functions of the NC3 systems engineer and all of the NCA and Nuclear C3 support for ASD(C3I).</p> <p>The first element is Strategic Planning which is done for OSD(C3I) and the Joint Staff. These are long-range plans and vulnerability assessments done to ensure NC3 is always adequate under all conditions of stress or war. It evaluates the operational capability for the Nuclear Command and Control System (NCCS), i.e., strengths and weaknesses and determines the best investment strategy to evolve the current NCCS to achieve the desired capability. Threats—from terrorist activities—to regional—to global are considered. Fiscal constraints and other top level guidance are also significant factors influencing these plans.</p> <p>The second element is Operational Assessments of the fielded C3 systems and weapons platforms. This assessment is the sole means for positive verification of the communications plans, procedures, operations orders, training, equipment and system configuration from end-to-end. It includes both strategic and theater-to-national level C3 interfaces into the NC3 systems. The tests are performed in an operational setting with the Joint Staff, CINC and nuclear forces worldwide.</p> <p>The third element of this project is to maximize the operational readiness of the National Military Command Systems (NMCS) by developing communications plans, procedures, operations orders and Battle Staff certification, and keeping these plans and procedures accurate as policy and forces change. Under this element, Battle Staff proficiency is verified.</p> <p>The fourth element is Airborne Engineering which provides technical and management advice, planning support systems engineering, Test & Evaluation (T&E) in the design, development, deployment and evolution of NMCS airborne DII architecture. Leading edge airborne C4I technology is assessed. The interoperability of hardware and operational procedures for airborne C4I and information systems is tested and verified under this element. This is in support of the airborne National Command Authority (NCA) including Air Force One, the Special Airlift Mission, and CINC support aircraft.</p>										

Exhibit R-2a, RDT&E Project Justification

DATE: February 1999

APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07		Minimum Essential Emergency Communications Network (MEECN)/0303131K					Strategic C3 Support/T70			
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	2.242	2.020	2.683	2.797	2.835	2.943	3.010	3.080	Contg	Contg

FY 1998 Accomplishments:

- o Continued NC3 Operational Assessments/Positive Command and Control (1st Qtr - 4th Qtr; \$1,163K)
- o Continued selected communications plans, updating and certifications (1st Qtr - 4th Qtr; \$436K)
- o Continued NC3 communication requirement for proliferation (1st Qtr - 4th Qtr; \$505K)
- o Validated new architecture to implement commercial-off-the-shelf (COTS) equipment into NC3 (1st Qtr - 4th Qtr; \$138K)
- o Total \$2.242M

FY 1999 Plans:

- o Continue NC3 Operational Assessments/Positive Command and Control (1st Qtr - 4th Qtr; \$1,075K)
- o Continue selected communications plans, updating and certifications (1st Qtr - 4th Qtr; \$385K)
- o Continue NC3 communication requirement for proliferation (1st Qtr - 4th Qtr; \$446K)
- o Validate new architecture to implement COTS equipment into NC3 (1st Qtr - 4th Qtr; \$114K)
- o Total \$2.020M

FY 2000 Plans:

- o Continue NC3 Operational Assessments/Positive Command and Control (1st Qtr - 4th Qtr; \$821K)
- o Continue selected communications plans, updating and certifications (1st Qtr - 4th Qtr; \$518K)
- o Continue NC3 communication requirement for proliferation (1st Qtr - 4th Qtr; \$599K)
- o Validate new architecture to implement COTS equipment into NC3 (1st Qtr - 4th Qtr; \$164K)
- o Airborne NII Architecture (1st Qtr - 4th Qtr; \$312K)
- o Airborne fiber distribution (1st Qtr - 4th Qtr; \$269K)
- o Total \$2.683M

Exhibit R-2a, RDT&E Project Justification

DATE: February 1999

APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07		Minimum Essential Emergency Communications Network (MEECN)/0303131K					Strategic C3 Support/T70			
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	2.242	2.020	2.683	2.797	2.835	2.943	3.010	3.080	Contg	Contg

FY 2001 Plans:

- o Continue NC3 Operational Assessments/Positive Command and Control (1st Qtr - 4th Qtr; \$1,131K)
- o Continue selected communications plans, updating and certifications (1st Qtr - 4th Qtr; \$541K)
- o Continue NC3 communication requirement for proliferation (1st Qtr - 4th Qtr; \$626K)
- o Validate new architecture to implement COTS equipment into NC3 (1st Qtr - 4th Qtr; \$171K)
- o ATM low bandwidth satellite integration plan (1st Qtr - 4th Qtr; \$164K)
- o Conformal antenna technology insertion plan (1st Qtr - 4th Qtr; \$164K)
- o Total \$2.797M

B. Other Program Funding Summary:

	<u>FY98</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>
Operations and Maintenance:	0.905	1.037	1.608	1.596	1.518	1.040	1.064	1.089

C. Acquisition Strategy: MITRE Corporation, McLean, VA; Raytheon E-Systems, Arlington, VA; Science Applications International Corporation (SAIC), McLean, VA; Booz-Allen Hamilton, Inc.; McLean, VA.

D. Schedule Profile: Events cited below occurred in each fiscal year (1998-2005).

- 1st Qtr - Strategic Mobile Command Center Operation Order completed for JS.
- 1st Qtr - Strategic Communications Assessment (Polo Hat) completed for JS.
- 1st Qtr - JS/CINC Staff Assistance Exercise (CINCSPACE, CINCSTRAT, National Airborne Operation Center).
- 1st Qtr - OSD(C3I) NC3 Review Report.
- 1st Qtr - Non-Strategic Communications Exercise completed for JS.
- 1st Qtr - Final NC3 System Description completed for JS.
- 1st Qtr - Assist in NCA and Nuclear C3 Aircraft modernization and overhaul.

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07		Minimum Essential Emergency Communications Network (MEECN)/0303131K					Strategic C3 Support/T70			
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	2.242	2.020	2.683	2.797	2.835	2.943	3.010	3.080	Contg	Contg
<p>2nd Qtr - NC3 Systems Engineer Annual Report to OSD(C3I). 2nd Qtr - JS/CINC Staff Assistance Exercise (CINCPAC). 2nd Qtr - Strategic Communications Assessment (Polo Hat) completed for JS. 2nd Qtr - Non-Strategic Communications Evaluation (CINCEUR). 2nd Qtr - Assist in NCA and Nuclear C3 Aircraft modernization and overhaul. 3rd Qtr - Strategic Communications Assessment (Polo Hat) completed for JS. 3rd Qtr - Emergency Communications Procedures CJCS, Emergency Action Procedures (EAP) Vol. 7 completed for JS. 3rd Qtr - Assist in NCA and Nuclear C3 Aircraft modernization and overhaul. 4th Qtr - Complete Early Pentagon Connectivity Modernization. 4th Qtr - NMCS/DOD Emergency Communications Plan completed for JS. 4th Qtr - Assist in NCA and Nuclear C3 Aircraft modernization and overhaul.</p>										

UNCLASSIFIED

Exhibit R-3 Cost Analysis										DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07		Minimum Essential Emergency Communications Network (MEECN)/0303131K					Strategic C3 Support/T70					
Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Award Cost	FY 00 Award Date	FY 01 Award Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/C CPAF CPFF MIPR	Multiple Performing Activities	2.242	2.020	12/98	2.683	12/99	2.797	12/00	Contg.	Contg.	N/A

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Minimum Essential Emergency Communications Network (MEECN)/0303131K				Special Projects/T64				
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	1.032	1.116	1.226	1.245	1.266	1.295	1.325	Contg	Contg
<p>A. <u>Mission Description & Budget Item Justification</u>: All aspects of this project are classified and require special access. Therefore, information on this project is not contained in this document but can be obtained upon request.</p> <p>B. <u>Other Program Funding Summary</u>: N/A.</p> <p>C. <u>Acquisition Summary</u>: Information may be provided upon request.</p> <p>D. <u>Schedule Profile</u>: Information may be provided upon request.</p>										
Page 8 of 9										

UNCLASSIFIED

Exhibit R-3 Cost Analysis		DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	PROGRAM ELEMENT Minimum Essential Emergency Communications Network (MEECN)/0303131K	PROJECT NAME AND NUMBER Special Projects/T64

Support Costs

<u>Cost Category</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total PYs Cost</u>	<u>FY 99 Cost</u>	<u>FY99 Award Date</u>	<u>FY 00 Cost</u>	<u>FY00 Award Date</u>	<u>FY 01 Cost</u>	<u>FY01 Award Date</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	<u>Total Value of Contract</u>
Systems Engineering	SS/C CPAF CPFF MIPR	Multiple Performing Activities	0	1.032	06/99	1.116	06/00	1.226	06/01	Contg.	Contg.	N/A

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE C4I for the Warrior/0303149K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element (PE)		3.664	.388	.407	.413	.430	.530	.634	Contg	Contg
Center for Standards/T20		3.289	0*	0	0	0	0	0	0	3.289
NMCS Subsystem Engineering/T50		.375**	.388	.407	.413	.430	.530	.634	Contg	Contg

A. Mission Description and Budget Item Justification:
This program element is the Chairman of the Joint Chiefs of Staff (CJCS) initiative promoting joint and coalition interoperability per DoD Directive 4630.5, DoD Instruction 4630.8. CJCS Instruction 6212.12 directs the Joint Staff J6 to continuously identify, prioritize, and quickly solve Joint C4I interoperability problems. C4IFTW's three overlapping phases lead to global interoperability for US military forces deployed anywhere, on any mission, at any time, with maximum flexibility in force composition. C4I for the Warrior provides focus and visibility into resolving C4I interoperability issues. As a result, this program element is under Budget Activity 07 because it involves effort supporting operational systems development.

* Beginning FY00, funding for this project has converted from RDT&E to O&M.
** This project was realigned from PE 0302016K.

FY99 Plans:

- o NATO Common Operational Picture (COP), Computer Based Training (CBT) (1st Qtr - 2nd Qtr; \$125K).
- o Operational Evaluation of Handheld Global Command and Control System (GCCS) PalmCOP Technology (1st Qtr - 4th Qtr; \$250K).
- o Develop ATM Network-to-Network Interface Standards Profile (1st Qtr - 4th Qtr; \$320K)
- o Development of SHF, UHF, and EHF SATCOM Standards (1st Qtr - 4th Qtr; \$538K)

Page 1 of 3

Exhibit R-2, RDT&E Budget Item Justification		DATE: February 1999																														
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	R-1 ITEM NOMENCLATURE C4I for the Warrior/0303149K																															
<p><u>FY99 Plans (Continued):</u></p> <ul style="list-style-type: none"> o Technical support of SATCOM Strategic Tactical NATO Agreement (STANAG) development (1st Qtr - 4th Qtr; \$550K) o Technical support to NATO Tactical Communications (TACOMS) 2000 (1st Qtr - 4th Qtr; \$250K) o Technical support to Program Manager (PM), Defense Message System (DMS) (1st Qtr - 4th Qtr; \$200K) o Technical support to PM-Electronic Commerce (1st Qtr - 4th Qtr; \$150K) o Development of standards for Digitized Battlefield (1st Qtr - 4th Qtr; \$575K) o DoD technical requirements for Internet Engineering Task Force (1st Qtr - 4th Qtr; \$117K) o Combined Joint Chiefs of Staff Manuals development (1st Qtr - 4th Qtr; \$589K) o Total \$3.664M <p><u>FY00 Plans:</u></p> <ul style="list-style-type: none"> o Install prototype GCCS testbed in Partnership for Peace (PFP) countries (3rd Qtr; \$150K). o Assist OSD/PMs with accessing GCCS prototype testbed (4th Qtr; \$238K). o Total \$.388M <p><u>FY01 Plans:</u></p> <ul style="list-style-type: none"> o Continue evolving, enhancing US/NATO GCCS COP interoperability (1st Qtr - 4th Qtr; \$214K). o Continue evolving, enhancing PFP GCCS COP interoperability (1st Qtr - 4th Qtr; \$193K). o Total \$.407M 																																
<p>B. Program Change Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">FY98</th> <th style="text-align: center; border-bottom: 1px solid black;">FY99</th> <th style="text-align: center; border-bottom: 1px solid black;">FY00</th> <th style="text-align: center; border-bottom: 1px solid black;">FY01</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget (FY99)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">3.675</td> <td style="text-align: center;">3.919</td> <td style="text-align: center;">4.177</td> </tr> <tr> <td>Appropriated Value</td> <td></td> <td style="text-align: center;">3.675</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value</td> <td></td> <td style="text-align: center;">-.011</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Budget Year since FY99 President's Budget</td> <td></td> <td></td> <td style="text-align: center;">-3.531</td> <td style="text-align: center;">-3.770</td> </tr> <tr> <td>Current Budget Submit/President's Budget (FY00)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">3.664</td> <td style="text-align: center;">.388</td> <td style="text-align: center;">.407</td> </tr> </tbody> </table> <p>Change Summary Explanation:</p> <ul style="list-style-type: none"> FY99 change due to undistributed congressional adjustments to Defense-wide RDT&E appropriation. FY00 and FY01 decrease due to conversion from RDT&E to O&M funding for project T20, Center for Standards. 				FY98	FY99	FY00	FY01	Previous President's Budget (FY99)	0	3.675	3.919	4.177	Appropriated Value		3.675			Adjustments to Appropriated Value		-.011			Adjustments to Budget Year since FY99 President's Budget			-3.531	-3.770	Current Budget Submit/President's Budget (FY00)	0	3.664	.388	.407
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Exhibit R-2, RDT&E Budget Item Justification									DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE Joint Spectrum Center (JSC)/0303153K					
COST (in millions)	FY98	*FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Joint Spectrum Center (JS1)		8.813	8.823	8.884	9.408	9.704	9.929	10.160	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification</u>: The Joint Spectrum Center (JSC) serves as the DOD focal point for electromagnetic (EM) spectrum management matters in support of the Unified Commands, Joint Staff, Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD (C³I)), Military Departments, and Defense Agencies in planning, acquisition, training, and operations. The JSC reports operationally to Defense Information Systems Agency (DISA). The JSC is the responsible activity for DOD spectrum management and use involving automation for strategic, theater, and tactical operations. The JSC has the responsibility for architecture and standardization of DOD automated spectrum information and management systems. Specifically, the Center designs, develops, and maintains DOD automated spectrum management systems, evaluation tools, and databases employed by the Unified Commands, Military Departments, and Defense Agencies. The JSC databases are the prime sources of information for DOD use of the EM spectrum. The JSC provides guidance and assistance to Office of Assistant Secretary of Defense (OASD), Joint Staff, DOD activities and Unified Commands to ensure development and acquisition of electromagnetically compatible systems and for the effective deployment of these systems in military operations. This Center is the focal point for spectrum related support, Electromagnetic Environmental Effects (E³), and EM interference resolution assistance to operational units including deployable support to CINC Joint Task Forces. The JSC mission is integral to other vital activities such as Information Operations (IO), Command and Control (C2) Protect and other defensive C3 warfare activities as directed by the Joint Staff. This program element is under Budget Activity 07 because it supports operational systems development.</p> <p>*This is not a new start. Project was realigned from Air Force PE 0303144F/PE 0303153F, ECAC/JSC, project 649E. In addition, funds were aligned from Navy for this project.</p> <p>FY 1998 Accomplishments: (\$ in Millions)</p> <ul style="list-style-type: none"> o Efforts funded in FY98 under AF PE 0303144F 										

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<p><u>FY 1999 Plans:</u></p> <ul style="list-style-type: none"> o Spectrum Technical/Analytical Support to OASD and Joint Staff (1st Qtr - 4th Qtr; \$1.694M) o Spectrum Management Information Systems (1st Qtr - 4th Qtr; \$3.854M) o E3 Program Development (1st Qtr - 4th Qtr; \$3.265M) o Total \$8.813M <p><u>FY 2000 Plans:</u></p> <ul style="list-style-type: none"> o Continue Spectrum Technical/Analytical Support to OASD and Joint Staff (1st Qtr - 4th Qtr; \$1.630M) o Continue Spectrum Management Information Systems (1st Qtr - 4th Qtr; \$3.926M) o Continue E3 Program Development (1st Qtr - 4th Qtr; \$3.267M) o Total \$8.823M <p><u>FY 2001 Plans:</u></p> <ul style="list-style-type: none"> o Continue Spectrum Technical/analytical Support to OASD and Joint Staff (1st Qtr - 4th Qtr; \$1.489M) o Continue Spectrum Management Information Systems (1st Qtr - 4th Qtr; \$4.095M) o Continue E3 Program Development (1st Qtr - 4th Qtr; \$3.300M) o Total \$8.884M <p>*This is not a new start. Project was realigned from Air Force PE 0303144F/PE 0303153F,ECAC/JSC, project 649E. In addition, funds were aligned from Navy for this project.</p>										

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UNCLASSIFIED

Exhibit R-3 Cost Analysis										DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, Defense-Wide/07			Joint Spectrum Center/0303153K				Joint Spectrum Center/JS1					
Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering/Technical Spt	C/CPAF	IIT Research Inst Annapolis, MD	6.536	3/98	6.490	2/99					13.026	13.026
GFE	C/CPAF	IIT Research Inst Annapolis, MD	.400		.400						.800	.800
Contractor Engineering/Technical Spt	C/CPFF	Various	1.877	10/98	1.933	10/99					3.810	3.810
Contractor Engineering/Technical Spt	TBD	TBD						8.884	TBD	TBD	TBD	TBD
Subtotal Test & Evaluation			8.813		8.823			8.884				
Total			8.813		8.823			8.884		Contg	Contg	Contg

Remarks: Contract for effort beyond FY 00 to be determined (TBD). PY's effort primarily funded under Air Force PE 0303144F and under funds managed by Navy.